THE QUARTERLY JOURNAL OF SPEECH

VOLUME XXIII DECEMBER, 1937 NUMBER 4

A SHORT HISTORY OF LARYNGEAL INVESTIGATION

PAUL MOORE

Northwestern University

SPEECH teachers have become increasingly interested in laryngeal research. This has been shown by their attendance and comments at those sessions of the NATIONAL ASSOCIATION OF TEACHERS OF SPEECH and the American Speech Correction Association, in which findings from recent vocal lip studies have been reported. Occasional articles by members of the speech profession also indicate this extending interest in the functioning of the vocal mechanism. Not many teachers, however, have had the time to investigate the background of modern laryngeal study; and, unfortunately, the talks and articles have not supplied it because of time and page-space limitations. As a result, many of the listeners and readers have been unable to consider the recent research in its proper perspective. It is primarily to provide some of the little known yet contributing background that this historical sketch is presented. In addition, the writer believes the information gathered will have some special interest for voice science.

It has been thought advisable, in the interests of clarity, to present this material from two points of view: first, the history of apparatus and techniques, and second, the results of the strobolaryngeal investigations, which are of special interest to speech. The former suggests the honorable past and the patient work done in this field. The latter presents an idea of the limitations imposed by the apparatus and techniques, and indicates the necessary work ahead.

DEVELOPMENT OF THE LARYNGOSCOPE

There is general agreement among historians that Dr. Bozzini, of Frankfort-on-the-Main, in 1807 made and attempted to use the first

device for laryngeal examination.[1,2,3,4] He constructed a round metal tube, somewhat enlarged at the observer's end and closed at the opposite end except for an opening at the side. He believed it to be impossible to use the same channel for both light and vision, and so in the center of this speculum he inserted a metal partition which formed two channels throughout its length, one for illumination, the other for viewing. At the inner end of both sections he placed mirrors on an angle permitting the observer to peer down the tubes and out of the side opening in periscope fashion. For illumination he used a lantern burning a wax candle, behind which there was a curved reflector to direct the light down one of the channels. His results were too insignificant to attract much attention, but those few men in the medical profession who did read his brochure criticized him severely. These factors evidently combined to cause the invention to be forgotten.

In 1827, just twenty years after the first work of Bozzini, Dr. Senn, of Geneva, had a small mirror constructed to put into the pharynx in order to examine the throat of a little girl. He did not use any illumination, however, and therefore failed in his attempt, but he attributed his failure to the smallness of the mirror. He suggested that it might be used with adults as an aid in diagnosis.[5,6]

About two years later, a report in the *London Medical Gazette* read as follows:

> Dr. Benjamin Babington submitted to the meeting an ingenious instrument for the examination of parts within the fauces not admitting of inspection by unaided sight. It consisted of an oblong piece of looking glass set in silver wire, with a long shank. The reflection portion is placed against the palate whilst the tongue is held down by a spatula, when the epiglottis and upper part of the larynx become visible in the glass. A strong light is required and the instrument should be dipped in water so as to have a film of the fluid upon it when used, or the halitus of the breath renders it cloudy. The doctor proposed to call it the *glottiscope*.[7]

[1] Morell Mackenzie, *The Use of the Laryngoscope in Diseases of the Throat*, 1865.

[2] J. Wright, "The Nose and Throat in Medical History," *Laryngoscope*, 12 (1902), 271–272.

[3] Moura, *Traité Practique de Laryngoscopie et de Rhinoscopie*, 1864.

[4] Adelbert Tobold, *Chronic Diseases of the Larynx*, etc., 1868.

[5] M. Mackenzie, *The Use of the Laryngoscope*, etc., 1865.

[6] J. Wright, "The Nose and Throat," etc., *Laryngoscope*, 12 (1902), 272.

[7] B. Babington, "Proceedings of the Hunterian Society," *London Medical Gazette*, 3 (1829), 555.

The drawings of this first instrument shown by Mackenzie indicate that it was remarkably like the ordinary guttural mirror used today, with the addition of a long, curved spatula for depressing the tongue fastened to the mirror shank by a small hinge. Evidently the spatula was not successful, because a later design omitted it.

Also in 1829 there was a report that M. Cagniard de la Tour put a mirror into the back part of his throat and with the aid of the sunlight and a second mirror tried to see his own bands, but was only partially successful. This represents the first reported attempt at auto-laryngoscopy.[8]

It was quite evident that as late as 1832 there was considerable doubt held by the medical profession generally that an examination of the larynx by means of a mirror was possible. Trousseau, of Paris, for instance, voiced strong disbelief in the statement of Dr. Bennatti, also of Paris, that he (Bennatti) had been able to see the vocal lips. He objected because he believed the epiglottis to be in the way. The speculum which Bennatti used was made by a mechanic named Selligue, in the belief that it would cure a throat infection which he had. The instrument had two tubes with a mirror on the guttural ends. One side was for viewing, the other for light.[9]

Robert Liston, a London surgeon, in 1837 published a book entitled *Practical Surgery,* in which he mentioned very briefly that the swellings of the laryngeal mucosa could sometimes be ascertained by putting a dental mirror with a long handle well back into the fauces and viewing the parts. It is clear from his discussion, however, that he was much more willing to trust an external manual examination of the laryngeal area for most diagnoses, and that the mirror was merely an accessory.[10, 11, 12, 13]

In the next year Baumès exhibited to the medical association in Lyons a mirror the size of a two franc piece for use in examining the posterior nares and larynx.[14, 15]

One of the chief problems of all of these investigations was to introduce sufficient light into the larynx for adequate viewing. Adam

[8] J. Wright, "The Nose and Throat," etc., *Laryngoscope,* 12 (1902), 272.
[9] M. Mackenzie, *The Use of the Laryngoscope,* etc., 1865.
[10] *Ibid.*
[11] J. Wright, "The Nose and Throat," etc., *Laryngoscope,* 12 (1902), 272.
[12] A. Tobold, *Chronic Diseases of the Larynx,* etc., 1868.
[13] Moura, *Traité Practique de Laryngoscopie,* etc., 1864.
[14] M. Mackenzie, *The Use of the Laryngoscope,* etc., 1865.
[15] J. Wright, "The Nose and Throat," etc., *Laryngoscope,* 12 (1902), 273.

Warden, in 1844, presented a possible solution in the use of refracting prisms. He designed several different types of speculi for the examination of the ear and other channels of the body. On all of these an adjustable prism was mounted at the observing end, thus allowing the light to come from the side and to be directed down the tube without any interference from the observer's head or body. His instrument for viewing the larynx was a single tube speculum with a right angle turn at the insertial end. Here he placed a second prism to direct the light into the larynx and reflect the image to the observer. His attempts at laryngeal examination were mentioned only briefly. Apparently he was not very successful.[16]

Within the same year a Mr. Avery, of London, exhibited a head band to which was attached a semi-spherical reflector with a hole in the center for viewing. This reflector, however, did not concentrate the light at a point some distance ahead as do the modern head mirrors. The latter improvement was introduced by Czermak, and it should not be confused with Avery's. Just in front of the reflector he mounted a small candle. This apparatus, illustrated by Mackenzie, was very similar in appearance to the modern physician's. However, Avery, too, was quite unsuccessful in his attempts at laryngeal examination because his light was very dim and the speculum which he used for viewing caused the patient considerable distress.

The next name to be presented is one of the best known in the history of laryngoscopy. It was in 1854, while Manual Garcia, a singing teacher, was in France, that he decided to test his belief in the possibility of viewing the human vocal lips in action. He inserted a dental mirror into the fauces, and by means of a second mirror held in his hand, directed the sunlight against the guttural mirror. By using these two mirrors as return reflectors also, the image of the larynx was visible to him, and as a result, he was the first to have any real success in laryngeal observation. By means of his rather extended auto-laryngological examinations, he discovered several important facts concerning the functioning of the larynx. Since he was entirely unaware of any previous work done in this line, he should be given credit for his original thinking. The report of his method and findings, published in London, was received very apathetically by the British, but it served as an impetus in Austria.[17, 18, 19, 20]

[16] Adam Warden, "New Application of the Reflecting Prism," *London Medical Gazette*, Whole series, Vol. 34; new series, Vol. 2 (1844), 256.

[17] M. Garcia, "Observations on the Human Voice," *Lon., Edinb. and Dublin*

In the summer of 1857, Dr. Türck, in Vienna, happened to read Garcia's article. It interested him a great deal, and so he had several laryngeal mirrors made and tried to use them in the wards of the General Hospital of his city. His attempts were quite unsatisfactory, however, because he depended upon sunlight, and because his laryngeal mirrors were rather bulky by reason of a hinge through which they were attached to the handle. Before very long he abandoned his attempts.[21,22]

In November of the same year Czermak, Professor of Physiology at the University of Pesth, borrowed some laryngeal mirrors from Dr. Türck. Presently his genius and craftsmanship produced significant changes which made laryngoscopy a practical instrument available to every physician. His improvements included the removal of the hinge, the introduction of the ophthalmoscope mirror for the concentration of the light, and the use of artificial light. The opthalmoscope mirror was held in place over the observer's eye by a piece of metal curved to fit into his mouth. Laryngoscopy owes its life to the introduction of the concave mirror by which the use of artificial light was made possible.[23,24]

After Czermak simplified the apparatus to its practical form, Türck resumed his hospital observations and gathered a great deal of valuable information. Unfortunately, jealousy between the two men led to a rather heated series of articles.

Moura gave Czermak and Türck credit for stirring the interest of the French medical men in laryngoscopy. In 1860, Prof. Czermak gave a number of demonstrations in Paris in the use of the laryngoscope. In the year following Dr. Türck also went to Paris, and at that time demonstrated the value of the instrument in the diagnosis of disease. The tremendous enthusiasm and pleasant personality of Czermak, perhaps as much as any other one thing, aided in this stimulation.[25]

Following Czermak's work, interest grew rapidly in America.

Philos. Mag. and J. of Sci., 10 (1855), 218 ff.

[18] Anon., "Eine Festrede Garcias," *Monatschr. f. Ohrenh.*, 61 (1927), 1.

[19] M. Mackenzie, 1865.

[20] J. Wright, "The Nose and Throat," etc., *Laryngoscope*, 12 (1902), 274.

[21] *Ibid.*, 275 ff.

[22] M. Mackenzie, 1865, 38 ff.

[23] M. Macknezie, 1865, p. 38 ff.

[24] J. Wright, "The Nose and Throat," etc., *Laryngoscope*, 12 (1902), 275.

[25] Moura, *Traité Practique*, etc., 1864.

The first reference published in this country appeared in 1860 and was a description of Czermak's apparatus. Dr. Krackswizer, of New York, ordered the apparatus from Czermak that same year, and soon after, Dr. Stagenwald also got one.[26] The interest in this branch of medicine evidently grew very rapidly here, for in 1879 Dr. Elsberg, first President of the American Laryngological Association, in his presidential address said: "The throat specialty, as a distinct part of regular medicine seems to have originated in America. Horace Green was the first to devote himself exclusively to the throat and respiratory diseases."[27]

It is very interesting to note in this connection that Horace Green, in the decade preceding Garcia's work, made the assertion that he could put a probe into the larynx of the normal person by following the air passages and could medicate directly. Today this statement would not be noticed, but at that time it called out the bitterest criticism from his contemporaries, both here and abroad. He lived to see the laryngoscope in common use and the type of direct medication which he had suggested in general practice.[28]

Some Attempted Improvements

Through the work of Czermak and Türck, laryngoscopy became accepted by the medical profession, but the indistinctness of the laryngeal images made improvement desirable. Some strengthened the light by putting lenses between the source and the head mirror to concentrate the beam.[29] However, by far the greater number attempted to enlarge the image.

1. *Magnification.* Dr. Wertheim, of Vienna, made the first attempts in this procedure by the use of a concave laryngeal mirror. Türck, however, objected to this method because when viewing objects at varying distances, as the physician would want to do, mirrors with different foci would have to be used. He also believed they could give but small magnification. Semeleder[30] and Tobold[31] both stated that a concave mirror presents properly only that part of

[26] L. Elsberg, "Laryngology in America," *Trans. Amer. Laryng. Assn.*, 1 (1879), 33 ff.

[27] *Ibid.*, 82.

[28] J. Wright, "The Nose and Throat," etc., *Laryngoscope*, 12 (1902), 270.

[29] Moura, *Traité Practique*, etc., 1864.

[30] F. Semeleder, *Rhinoscopy and Laryngoscopy*, etc., 1866.

[31] A. Tobold, *Chronic Diseases of the Larynx*, etc., 1868.

the image reflected in the center and distorts it toward the rim. Semeleder presented an interesting sidelight on the thinking of a medical man in 1866 when he said:

> .... The author cannot allow the necessity or even the usefulness of such apparatus; for alterations so slight as not to be detected with the naked eye, or with the aid of spectacles, can hardly give occasion to an examination, or cause discomfort.[32]

In the early '60's, Türck tried to gain an enlarged view with a small Galilean telescope attached to an arm of his illuminating apparatus. He evidently was not very successful, because little was said about it.[33, 34] A somewhat similar attempt was made about the same time by Voltolini, about whom Semeleder reports:

> Voltolini had an opera-glass from which he had removed the ocular for magnifying the image; and also a small telescope, from which he took all the glasses except the objective; he obtained good results when he had the patient's head held firmly by a special contrivance; still this was achieved by sunlight alone, and he rightly thinks that for such peculiar examinations one would have time to wait for sunlight.[35]

The next attempt to use a magnifying instrument for observation, and the last which the author has found up to the present, was made by Oertel in 1895. He mounted a telescope with a magnifying power of eight times to the stand which held a stroboscopic disc. More is told of this apparatus in the section on strobolaryngoscopy.

2. *Binocular Viewing.* It was soon apparent to the earliest of the investigators that viewing the vocal lips from above, and thus approximately in the plane of their up and down vibration, made vertical movement difficult to examine. Monocular viewing with its attendant inaccuracy of depth perception added to the problem. To overcome this difficulty, several men attempted binocular viewing. Von Eicken reported that Giraud-Geulon made the first attempts in 1861.[36] Two prisms were mounted behind the hole in a concave head mirror so that the laryngeal image passing through the hole would be reflected directly to the right and the left. At a short distance on either side two other prisms were set to direct the image from the

[32] F. Semeleder, *Rhinoscopy and Laryngoscopy*, etc., 1866, 29.

[33] *Ibid.*

[34] A. Tobold, *Chronic Diseases of the Larynx*, etc., 1868.

[35] F. Semeleder, 1866, 29.

[36] C. von Eicken, "Körperliches Sehen bei der Oto-Rhino-Laryngoskopie." *Arch. f. Laryngol. u. Rhinologie*, 33 (1920), 690 ff.

first prisms into the observer's eyes. This was not satisfactory because the eyes were seeing the object from the same angle rather than two slightly different angles, which is necessary for three dimensional viewing. The next attempts at this type of observation appear to have been delayed until Hegener took up the problem in 1909.[37] However, several had attempted to make stereoscopic pictures.

Photography

The development of laryngeal photography in its three phases: first, stereoscopic: second, single, two-dimensional; and third, motion, adds an interesting part to the general history of laryngoscopy.

1. *Stereoscopic and Single.* As with so many other developments, Czermak was the first to attempt laryngeal photography.[38, 39, 40, and others] He used a multiple lens system which allowed him to take several pictures at once, the films for which were placed on a right-angle-cross holder. The two pictures on the horizontal section were mounted for stereoscopic viewing. His pictures were all very small, and so he projected them on a screen and thus gained the credit for first studying the laryngeal pictures in this manner. Others worked on the problem about this same time, i.e., 1860 and following years, but they, too, had relatively little success.[41]

Along about 1883 and 1884, Lennox-Brown and Behnke made some serious attempts to photograph. To take their pictures they used a 10,000 candle-power light and needed two photographers, two doctors, and an electrician to manipulate the apparatus. It is little wonder that they were pessimistic about laryngeal photography when such elaborateness produced pictures one and one-half millimeters in diameter and no more distinct than Czermak's.[42]

Fortunately, however, a few months after Lennox-Brown and Behnke published their book (1884), the gloom was dispelled by Dr.

[37] J. Hegener, "Die binokular-stereoskopische Untersuchung der Larynx," etc., *Passow-Schaefers Beiträge*, 3 (1909), 222 ff.

[38] J. Hegener, "Die Entwicklung der Subjectiven und Objectiven Endolaryngealen Beobachtungsmethoden," etc., *Vox*, 31 (1921), 1 ff.

[39] Czermak, "Application de la Photographie à la Laryngoscopie et à la Rhinoscopie," *Comptes Rendus* (Nov. 25, 1861).

[40] A. Musehold, "Ein Neuer Apparat zur Photographie des Kehlkopfes," *Deutsche Med. Wochenschr.* (1893), 274 ff.

[41] See 38 and 40 above and the others writing about photography.

[42] J. Hegener, "Die Entwicklung der Subjectiven und Objectiven," etc., *Vox*, 31 (1931), 1 ff.

Thomas R. French, an American, who took some remarkable pictures.[43] His camera was quite simple, being a narrow, rectangular box, 10½ inches long, 1½ inches wide, and ⅞ of an inch thick. A telescopic lens protruded from the middle of one side. Beside it, and perpendicular to the side of the camera, a laryngeal mirror having a convex reflecting surface was placed so that the image reflected by the mirror was directed into the camera. A large lens concentrated the sunlight on a head mirror, from which the beam passed to the guttural mirror. The smallness of the camera and its ease of handling made taking the pictures almost as simple as laryngeal examination.

Other men who stood out in this early progression were Beregszaszy, Wagner, Musehold, and Garel. The first of these, in 1866, fastened a small camera to a mirror handle so that direct pictures of the larynx might be made. It was so large and bulky, however, that it could be used only on cadavers.[44, 45] About four years later Wagner set his camera lens directly behind the hole in a concave mirror and burned a strip of magnesium for light. His camera was not focused properly, and so his pictures were hazy. Using a similar set-up, Musehold, in 1893, got clear pictures which were about four-fifths natural size. This was considered a real forward step.[46] After considerable experimentation with various methods, Garel revised French's camera to make paired simultaneous exposures.[47] These pictures when taken were only a small distance apart, but after development they were separated to the proper distance for stereoscopic viewing. Although the perception of depth obtained was only slight, the method claimed some improvement over the single pictures of Musehold and others.

2. Laryngeal Motion Pictures. The next significant photographic development occurred in 1913 when Chevroton and Vlès made the first motion pictures of the larynx.[48] Although they were not able to study the smaller movements of the vocal lips, they were able to

[43] Thomas R. French, "On a Perfected Method of Photographing the Larynx," *N. Y. Med. J.*, 40 (1884), 653 ff.

[44] O. Ehrentheil and F. Back, "Neue Wege in der Laryngophotographie," *Monatschr. f. Ohrenh.*, 65 (1931), 91 ff.

[45] J. Hegener, "Die Entwicklung der Subjectiven," etc., *Vox*, 31 (1921), 1 ff.

[46] A. Musehold, "Ein neuer Apparat," etc., *Deutsche Med. Wochenschr.*, (1893), 274 ff.

[47] J. Garel, "La Photographie Stéréoscopique du Larynx," *Ann. des Mal. de l'Oreille*, 25, pt. 1 (1899), 702 ff.

[48] L. Chevroton and F. Vlès, "Cinématographie des Cordes Vocales et de leurs annexes Laryngiennes," *Compt. Rend.*, 156 (1913), 949 ff.

show the gross action and, therefore, to study the width, length, and movements of the vocal lips from the cessation of vocalization through inhalation and back to the initiation of further vocalization.

In the same year, Hegener and Panconcelli-Calzia made the first stroboscopic motion pictures, which must have been rather good, for they were shown at the Phonetics Congress in 1914.[49] However, Panconcelli-Calzia says he made the first simple and useful stroboscopic motion pictures in 1929. In the same year he made the first color motion pictures.[50,51,52,53,54] In the year following, Russell and Tuttle also made pictures in color.[55] In 1931, Heatly[56] and Morrison,[57] made some pictures by direct laryngoscopy, but such methods are not applicable when normal function is to be studied. The pictures made by Tiffin at the State University of Iowa, and shown at the annual meeting of the American Speech Correction Association on January 2, 1936, are among the best which this writer has seen. Equally good pictures have been obtained within the past year with a simplified technique at Northwestern University's School of Speech.

The substitution of the camera for the observer's eye has not changed the techniques of laryngoscopy, nor has it done much more than make existing information available to many through publication and the showing of motion picture films. However, it is quite likely that the motion picture will constantly become more valuable in the

[49] J. Hegener and C. Panconcelli-Calzia, "Ein Einfache Kinematographie und die Strobokinematographie der Stimmlippenbewegungen beim Lebenden," *Vox*, 23 (1913), 81–82.

[50] C. Panconcelli-Calzia, "Die Erforschung der Stimmlippentätigkeit der Kinematographie," *Deutsche Med. Wochenschr.*, 59 (1933), 891 ff.

[51] ....., "Zeitlupenaufnahmen und strobokinematographie von Vorgänen im Kehlkopf," *Zeitschr. f. Laryng., Rhin.*, 17 (1929), 394–395.

[52] ....., "Naturfarben-Stereoaufnahmen von Phonationsvorgängen im Kehlkopf," *Zeitschr. f. Laryng., Rhin.*, 18 (1929), 100–101.

[53] ....., "Eine zweckmassige Vorrichtung zur einfachen und stroboskopischen Kinematographie von Phonations-Vorgängen im Kehlkopf," *Zeitshr. f. Laryng., Rhin.*, 18 (1929), 101–102.

[54] ....., "Die Naturfarbenkinematographie von Phonationsvorgängen Insbesonders im Kehlkopf," *Zeitschr. f. Laryng., Rhin.*, 18 (1929), 376–377.

[55] G. O. Russell and C. H. Tuttle, "Color Movies of Vocal Cord Action," etc., *Laryngoscope*, 40 (1930), 549–552.

[56] C. A. Heatly, "Motion Picture Studies of the Larynx," *Ann. Otol., Rhin., and Laryng.*, 40 (1931), 434–447.

[57] C. A. Morrison, "Cinematography with the Laryngoscope," *J. Soc. Motion Pict. Engin.*, 16 (1931), 356–361.

study of laryngeal function, particularly where stroboscopy or a high rate of film movement is used.

So far this discussion has followed laryngoscopy from its beginning to its practical application in the hands of Czermak and Türck. From that point the stories of several of the supplementary measures, such as magnification, stereoscopy, and photography, have been traced. Stroboscopy has also been mentioned several times, but its history has been postponed until now because, first, its association with laryngoscopy, forming strobolaryngoscopy, occurred after these others (except motion photography), and second, it has special interest for present day readers because it is the most common method of investigation now in use.

Stroboscopy

Before carrying the discussion of laryngeal examination into strobolaryngoscopy, it is believed advantageous to digress for a brief consideration of the functioning and history of the stroboscope.

1. *The Principle of the Stroboscope.* The stroboscope is an instrument which produces an optical illusion in which an object moving rapidly and periodically, such as a rotating wheel or vibrating string, appears to stand still or to move very slowly. This illusion is obtained by presenting the object to the viewer intermittently and regularly in such a way that it is repeatedly seen in the same or nearly the same position. The phenomenon occurs because there is a "retinal lag," or persistence of vision in the eye, which has the effect of causing each image to linger. The minimum frequency at which the repetitions may occur to produce the illusion of continuous movement "varies with the ratio of the period of illumination to the period of darkness, with the intensity of the light, with its color, and to some extent with the individual."[58]

Perhaps an illustration will serve to explain how the object may be made to appear either stationary or moving slowly. If a wheel, rotating n times a second, be seen intermittently exactly n times a second, the retinal images will be identical and the object will appear stationary. If, on the other hand, the rotation of the wheel be increased slightly and the viewing rate remain the same, at each successive glimpse the wheel will have completed a little more than one

[58] J. F. Crowley, "Intermittent Illumination in Industry," etc., *The Illuminating Engineer*, 16 (1923), 193.

revolution; the retinal image will be displaced slightly and progressively, and the wheel will appear to move slightly forward. If the movement of the wheel were slowed to less than the original speed, other factors the same, the apparent movement would be backward. Similarly, slowing the viewing rate would make the relationship between the viewing speed and the wheel movement the same as when the wheel speed was increased, i.e., the wheel would appear to move slowly forward.

The foregoing paragraph has already suggested that the prime essential for the strobsocopic effect is the intermittent observation of the object. This intermittency may be produced in any one of the five different divisions of an observational situation: (a) illumination, (b) the space between the illumination and the object, (c) the object, (d) the space between the object and the eye, and (e) the eye.[59] That is, (a) the light source may be made to flash; or (b) an interrupter such as a rotating perforated disc may cut the light beam between its source and the object; or (c) under some conditions the object, if it be a rotating cylinder, can be painted in alternate black and white stripes so that when a vibrating light beam falls on it the light is alternately reflected and absorbed, producing a stroboscopic effect with the vibrating light; or (d) a disc may also be put between the object and the eye so that it interrupts the reflected beam; or (e) the eye may be vibrated so that in part of its swing it is synchronized with the movement of the object, resulting in the image being momentarily and repeatedly at rest on the retina, giving a stroboscopic effect. Many types of apparatus have been devised to produce these interruptions, and, although an account of all of them cannot be included here, the history of some of the representative types will aid in gaining the proper perspective on strobolaryngoscopy.

2. *Historical Sketch of Stroboscopy.* In the very early part of the last century many men became interested in optical illusions. Dr. Roget, for instance, noticed the peculiar curvature which the spokes of carriage wheels seemed to take when their movement was seen through openings such as between the strips of a picket fence. His report in 1825 described some experiments which he set up to discover why such a phenomenon occurred.[60] About the same time one

[59] The first four have been pointed out by J. F. Crowley, *Intermittent Illumination in Industry*, etc., p. 189 ff., and the fifth by M. Metfessel, "Stroboscopy by Means of Impressed Eye Movements," etc., *Science*, 78 (1933), 416–417.

[60] P. M. Roget, "Explanation of an Optical Deception," etc., *Philos. Trans. Royal Soc. London* (1825), 131.

of Faraday's friends called his attention to the fact that the shadows from the spokes of carriage wheels seemed to be motionless when seen through the wheel itself. Others noticed that the under section of a long endless chain appeared stationary when it was viewed through the links of the upper section. These observations caused Faraday to experiment. He arranged parallel discs, having radial extensions like spokes from a hub, to rotate independently of each other. By viewing the movement of one through the openings in the other he determined the effects of the various ratios of the viewing to the revolving speeds.[61]

Others rapidly took up similar investigations, but the two whose work has proved of most significance in the development of stroboscopy were Stampfer, of Vienna, and Plateau, of Ghent. Considerable discussion is found in the literature as to just which of these was the real inventor of the stroboscope, i.e., a practical stroboscope carried beyond Faraday's experimenting.[62, 63, 64, 65, and others] Since both of these men were influenced by Faraday and since each developed his own disc without the knowledge of the other, it seems logical to give them joint credit, as has Kallen.[66] The stroboscopes which they made had equally spaced radial slots cut near the periphery through which the observer looked while the disc was rotated.

In addition to the stroboscope, another development was begun with the slotted disc. Plateau conceived the first "motion picture" when he pasted a series of pictures, representing the various stages of an object in motion, to the back of his disc between the apertures. He then arranged a plane mirror on the same side as the pictures and some distance away, so that an observer by looking through the openings of the rotating disc could see the progressive stages of the movement reflected in the mirror. The rapid succession of the images plus the phenomenon of persistence of vision produced the appearance

[61] Faraday, "On a Peculiar Class of Optical Deception," *J. of the Royal Institution*, 1 (1830–31), 204 ff.

[62] W. G. Horner, "On the Properties of the Daedaleum," etc., *London and Edinb. Philos. Mag. and J. of Sci.*, 4, series 3, (1834), 36 ff.

[63] Anon., "Stroboskopische Schieben, Phänakistoskop, Phantasmaskop," *Ann. d. Physik u. Chemie* (J. C. Poggendorff), 32 (1834), 636 ff.

[64] J. F. Crowley, *Illuminating Engineer*, 16 (1923), 189 ff.

[65] H. Stern, "Hundert Jahre Stroboskopie," *Monatschr. f. Ohrenh.*, 68 (1934), 569 ff.

[66] L. A. Kallen, "Laryngostroboscopy in the Practice of Otolaryngology," *Arch. Otolaryng.*, 16 (1932), 791 ff.

of continuous movement. The many steps between Plateau's pictures and the modern cinema provide a fascinating story, which has been sketched by J. F. Crowley.[67]

Although most of the investigators following Plateau were more interested in the illusion with pictures than they were in viewing movements through the plates, there were some who contributed additional stroboscopic information. In 1834, Talbot reported an experiment which he performed in 1826 with a rotating mirror.[68] He tied a string around the glass near its axis of rotation and then placed a candle at some distance in front of it. When the mirror was rotated the thread appeared to be at rest, standing out from the surface of the mirror. At first it surprised him, but he discovered that when the mirror reflected the light into his eye the thread was visible and that this occurred in only a brief part of the cycle. The repetitions of the image, of course, caused the illusion. In addition to being the first rotating mirror stroboscope, this is also the first instrument which varied the light beam between its source and the object. He asked, "Is not this experiment capable of being applied to some useful purpose?" His question has been answered affirmatively by the rotating mirror stroboscopes used today.[69]

Another publication in 1834 describes the Daedaleum, which was a cylinder, mounted to rotate on its axis, having slots in its sides parallel to the axis. On the inside between the openings pictures of successive stages of movement were fastened and when viewed through the slits the illusion of motion was obtained.[70] Its use places it properly in the history of the motion picture. However, it is but a slight change from looking at the pictures to viewing moving bodies through the slits when they come opposite each other. Hence the first cylindrical stroboscope was really the Daedaleum. Its highest stroboscopic development has been reached in the modern "Ashdown rotoscope."[71,72]

A unique and quite serviceable stroboscope was introduced by

[67] J. F. Crowley, *Illuminating Engineer*, 16 (1923), 189–211.

[68] H. F. Talbot, "Facts Relating to Optical Science, No. 1," *London and Edinb. Philos. Mag. and J. of Sci.*, 4, series 3 (1834), 113.

[69] Anon., "High Speed Stroboscope," *Engineering*, 116 (1923), 255–256.

[70] W. G. Horner, "On the Properties of the Daedaleum," etc., *London and Edinb. Philos. Mag. and J. of Sci.*, 4, series 3 (1834), 36–41.

[71] Anon., "Ashdown Rotoscope," *Textile World*, 74 (1928), 1679f.

[72] Anon., "High Speed Shutter for Stroboscopes," *Engineering*, 122 (1926), 686–687.

C. V. Drysdale. He attached flat metal flanges extending inward from the prongs of a tuning fork so that when the fork vibrated the flanges momentarily opened the space between them, permitting the observer to look beyond. This provided a very regular means of interruption.[73] More recently this idea has been developed into the Crompton-Robertson stroboscopic vibrator, which is electrically driven and which has prongs of adjustable length, thereby making the vibratory rate variable.[74, 75]

It will be noted that in all of the devices so far mentioned, with the exception of Talbot's rotating mirror, the stroboscopic effect has been attained by putting the interrupter between the object and the observer's eye. It has been found equally possible to cut the light beam between its source and the object. Töpler, in 1866, mentions the use of this method, but he soon discarded it.[76] Such use was not common until nearer the end of the century when brilliant light sources became available.

In 1870, McLeod and Clark introduced an entirely new scheme whereby they could obtain a form of stroboscopic illusion by variations in the object itself. They painted black and white lines on a cylinder parallel to the axis of rotation, with the white lines very much narrower than the black. When a light beam vibrating parallel to the lines and at a tangent was thrown on the rotating drum, the white lines would reflect the light as it rose and fell, while the black portions would absorb it. The rapid succession of reflections from the white lines produced the stroboscopic effect.[77]

The devices mentioned here represent the principal developments in the stroboscope from its beginning up to 1878, the year in which stroboscopy was first combined with laryngoscopy. The use of the stroboscope past that time has spread into almost all fields where a study of rapid motion is necessary. To describe its varied uses, however, would take this discussion far off its course. Therefore, from this point onward, attention will be centered on strobolaryngoscopy.

[73] A. B. Wood, *A Textbook of Sound* (1930), 225.

[74] *Ibid.*

[75] J. Boyer, "Une Illusion d'Optique Sert à Mesurer des Vitesses," *La Nature*, 51 (1923), 230–232.

[76] A. Töpler, "Das Princip der Stroboskopischen Scheiben," etc., *Ann. d. Physik*, 128, series 2 (1866), 108–125.

[77] J. F. Crowley, "The Use of Intermittent Illumination in Industry," etc., *Illuminating Engineer*, 16 (1923), 189 ff.

History of Strobolaryngoscopy, Exclusive of the Recent Work with Glow-Lamps

Töpler was one of the many who had become interested in stroboscopy and whose scientific prestige gave importance to stroboscopic experiments. However, he is of particular interest here because he was the first to suggest that the stroboscope might be used in the investigation of the movement of the vocal lips.[78] He did not try to accomplish what he had suggested, and thus it remained for Oertel, twelve years later, in 1878, to make the first attempts.[79, 80]

Oertel did not introduce any new apparatus, but he did accomplish much by his application of stroboscopy to laryngeal observation. The difficulties of operation caused him to make but few observations of the living vocal lips, giving more attention to artificial ones which he constructed. His method was to look at the bands through the holes of a rotating disc, which he turned by hand. This method of rotation was unsatisfactory because of the inconstant rate. As a secondary means of observation, he mentioned that it was quite possible to allow the prongs of a tuning fork to interrupt the vision.

The next person to become active in the stroboscopic examination of the vocal bands was Koschlakoff, who published in 1886 an account of his observations of artificial models. He improved the apparatus which had been used by Oertel by driving the disc with a spring in clock fashion. As a supplementary investigation, he attached light weight pens to the artificial bands so that tracings of their movements could be made on a smoked drum.[81]

Another publication by Oertel, 1895, indicated that he had been spending considerable time trying to improve his apparatus and in carrying on his research into the function of the vocal lips in the various registers. At this time he had mounted a concave mirror, for concentrating the light, on the stand which held the disc so that the hole in the center of the mirror was close to and directly in line with the holes of the disc. On the observer's side of the disc and

[78] A. Töpler, "Das Princip der Stroboskopischen Scheiben," etc., *Ann. d. Physik*, 128, series 2 (1866), 108–125.

[79] M. J. Oertel, "Ueber eine neue Laryngostroboskopische Unterschungsmethode," *Centralb. f. d. Med. Wiss.*, 16 (1878), 81–82.

[80] ....., "Laryngostroboskopische Beobachtungen über die Bildung der Register," etc., *Centralb. f. d. Med. Wiss.*, 16 (1878), 99–101.

[81] D. J. Koschlakoff, "Ueber die Schwingungstypen der Stimmbänder," *Arch. f. d. Ges. Physiol.* (Pflüger), 38 (1885–1886), 428–476.

also in line with the holes, he mounted a small telescope, which gave an enlargement of eight times.[82]

Just three years later, Gustave Spiess described a really unique strobolaryngoscope, designed to provide much illumination from an easily controlled source. To a head band he attached a small drum-shaped cylinder with two electric lamps enclosed, around which revolved perforated cylinders. On the side of the drum away from the head there were two apertures fitted with condensing lenses, which converged the beams on the guttural mirror. As the cylinders rotated, the beams from both lights were simultaneously interrupted. By means of the two sources he was able to double the intensity of the light at the bands. The greatest disadvantage seemed to be the restriction of movement caused by the flexible driving shaft, which extended from an electric motor situated on the floor behind the observer up over the back of his head and forward to the instrument proper.[83]

In 1914, Hegener described another disc stroboscope which was an improvement over previous ones. His apparatus consisted of a very brilliant electric arc light which had associated with it a series of condensing lenses. Between the lenses, where the light beam was brought to a focus, he passed the perforated disc.[84]

The improvement in such an arrangement has been pointed out by Metzger, who said, "Perhaps the worst disadvantage of a disc stroboscope in its primitive form is that it does not expose the whole field of vision at the same moment, but subsequently, and thus necessarily, distorts the apparent shape of the object."[85]

"The stroboscopic distortion can be eliminated completely by focusing the rays of the lighting bulb through one or two lenses and placing the stroboscopic disc exactly at the focus."[86]

Hegener also improved the observation technique. The light was directed from its source, off to the side of the observer, through a series of lenses and on a small mirror set at an angle of forty-five

[82] M. J. Oertel, "Das Laryngo-stroboskop und die Laryngo-Stroboskopische Untersuchung," *Arch. f. Laryng. u. Rhin.*, 3 (1895), 1–16.

[83] G. Spiess, "Ein neues Laryngoskop," *Arch. f. Laryng. u. Rhin.*, 7 (1897–1898), 148–150.

[84] J. Hegener, "Ein neues Laryngoskop, zugleich," etc., *Vox*, 24 (1914), 1–10.

[85] W. Metzger, "The Mode of Vibration of the Vocal Cords," *Psych. Monog.*, 38 (1928), 124.

[86] *Ibid.*, p. 125.

degrees to the beam, by which the line of light was turned ninety degrees. In this arrangement the observer sat immediately behind the mirror and directly in front of the subject, yet he did not interrupt the beam with his own body.

The instrument developed by Wethlo and reported in 1915 was outstanding for its compactness and aim at practicality. It consisted of a metal tube with a sturdy handle attached at right angles. A prism was placed in the guttural end of the tube just above a small opening so that an observer could look through the tube to the prism and downward to the larynx. A small electric lamp was mounted next to the prism for illumination. This much of the instrument was quite conventional, but the addition of a small stroboscopic disc at the viewing end of the tube was new. The disc was rotated by a small compressed air turbine which was mounted on top of the tube and attached directly to the disc. The sketch of this unified instrument in Wethlo's article is convincing in its apparent ease of handling.[87] However, the fact that others have not followed his example probably indicated that it was not all its inventor desired.

Possibly the turbine presented the difficulty because in 1933 Flateau developed another instrument with the revolving disc at the viewing end of the tube, very much like Wethlo's. However, in the more recent apparatus the disc was driven by an electric motor through a flexible shaft.[88]

Quite a few articles have been published within the past ten years reporting the use of disc stroboscopes in laryngeal examination.[89, 90, 91, 92, 93, 94, 95, 96, and others] Each presents some refinement in control. Many urge the laryngologists to take advantage of the stroboscope

[87] F. Wethlo, "Zur Technik der Stroboskopie," *Vox*, 25 (1915), 271–277.

[88] Fröschels, Hajek and Weiss, "Untersuchungsmethoden der Stimme und Sprache," *Handbuch der Biologischen Arbeitsmethoden*, 5, pt. 7/II (1933), 1383–1540.

[89] Loebell, "Ein neues Stroboskop," *Zeitschr. f. Hals-Nasen u. Ohrenh.*, 15 (1926), 371–373.

[90] H. Dahmann, "Zur Frage der Physikalischen Grundlagen der Stroboskopie. Ein neues Laryngo-stroboskop," *Zeitschr. f. Hals-Nasen u. Ohrenh.*, 17 (1927), 560–573.

[91] ....., "Stroboskopie und Allgemeine Laryngologie. Demonstration eines Universal-Stroboskops," *Zeitschr. f. Hals-Nasen u. Ohrenh.*, 29 (1931), 426–435.

[92] H. Stern, "Die Stroboskopische Untersuchungsmethodik," *Weiner Med. Wochenschr.*, 81 (1931), 1596–1598.

in diagnosis. All imply that the development of this instrument for the laryngologists' practical use has been made possible mainly through the increased control of electricity in motors and lights. Unfortunately, even the best disc stroboscopes are still cumbersome. However, the laryngologist need not feel alarmed, because the recent gains in electrical knowledge have resulted in flashing light stroboscopy, which should soon provide him with a compact, easily operated instrument.

Development of Glow-Lamp Stroboscopy

In the history traced thus far it has been evident that each new trend was essentially an adaptation of apparatus and techniques from other fields to laryngoscopy. Another application which occurred as recently as 1932 was the use of flashing light stroboscopy in laryngeal examination. Its recency and probable future importance justify a special discussion of it. However, before dealing with the special laryngeal application, a brief sketch of the general growth of flashing light stroboscopy seems indicated.

The primary interest in this section is in gas-filled lamps, but it should be noted that any type of light source which can be made rapidly and regularly intermittent will serve as a means for stroboscopic observation. The manometric flame has long been used in this role in association with stroboscopic discs. Also attempts have been made to use alternating current in metal filament lamps and in arc lamps, but neither has been successful because the glowing elements give off too much light between the phase-changes of the current.[97,98]

The last statement implied that one of the necessary features of a flashing light stroboscope is a sharp flash. The gas-filled glow-tube has met this requirement most satisfactorily, because its flash occurs

[93] M. Mihich, "Einige Bemerkungen zu der von H. Stern Angegebenen neuen Stroboskopieapparatur," *Monatschr. f. Ohrenh.*, 66 (1932), 1123–1129.

[94] J. Tarneaud, "La Stroboscopie du Larynx," *Rev. de Laryng.*, 53 (1932), 917–932.

[95] L. A. Kallen, "Laryngostroboscopy in Practice of Otolaryngology," *Arch. Otolaryng.*, 16 (1932), 971–807.

[96] L. S. Powell, "The Laryngo-Stroboscope in Clinical Examination," *Eye, Ear, Nose and Throat Monthly*, 14 (1935), 265–270.

[97] Anon., "Device for Magnifying Time," *Cur. Lit.*, 36 (1904), 340.

[98] J. F. Crowley, "The Use of Intermittent Illumination," etc., *Illuminating Engineer*, 16 (1923), 201.

only when the voltage reaches a certain fixed value. By regulating the amount of current and by causing it to travel through the tube in short intense impulses, the light may be made to glow very briefly. This glow results from the ionization of the gas within the lamp caused by the flow of electric current.

The ionizing of rarefied gases by passing a current through them has been a common procedure since Heinrich Geissler made the tubes which carry his name. He set up a factory in Bonn in 1854, and soon his tubes, containing many of the rarefied gases, were in general experimental use.[99] They were made of glass tubing and were of many sizes and shapes. Each, however, was filled with an inert gas and had at least two electrodes in contact with the gas and attached to an external electric circuit. The Gassiot Star was one of the early developments with the tubes. In this device a long, narrow tube was mounted at its center to revolve in propeller fashion. The electrodes were attached to segments of a contact wheel which permitted the tube to flash at certain positions in its rotation. When turned rapidly the flashes created the illusion of an asterisk. In the modern version of this apparatus, the Geissler tube has been mounted on a fan motor.[100]

To obtain the high voltages necessary for flashing the tubes, induction coils and step-up transformers have been commonly employed. This simple means of current control is used in most of the glow-lamp stroboscopes found in industry today. The names of some of the more common commercial instruments are: Elverson Stroboscope,[101] Stroborama,[102, 103, 104] Stroboglow,[105, 106] Edgerton Stroboscope,[107, 108] and the Vibroscope.[109]

[99] *The New International Encyclopedia*, Second Edition (1915).

[100] H. Gernsback, "Design of a Simple Stroboscope," *The Radio News*, 9 (1927), 131 ff.

[101] F. Rawlinson, "When Optical Illusions Aid the Engineer," *Sci. Amer.*, 127 (1922), 316.

[102] J. Boyer, "Le Stroborama," etc., *La Nature*, 53, pt. 2 (1925), 397–400.

[103] Anon., "New Machinery for Studying Motion," *Sci. Amer.*, 138 (1928), 444–445.

[104] Anon., "Stroborama Stroboscope," *Engineer*, 158 (1934), 292–293.

[105] W. E. Bahle and D. D. Knowles, "The Stroboglow," *Elec. J.*, 28 (1931), 250–253.

[106] L. R. Quarles, "Stroboglow," *R. Sci., Inst.*, 3 (1932), 85–90.

[107] H. E. Edgerton and K. J. Germeshausen, "The Mercury Arc as an Actinic Stroboscopic Light Source," *R. Sci., Inst.*, 3 (1932), 535–542.

[108] Anon., "Edgerton Stroboscope," *Amer. Mach.*, 77 (1933), 196.

[109] Anon., "The Vibroscope for Examining and Counting Spindle Speed," *Melliand Textile Mo.*, 4 (1933), 640.

In these and almost all other flashing light stroboscopes the rate of flash has been controlled by some regularly varying stimulator, such as a tuning fork interrupting a circuit,[110] a vibrating reed [111] or wire with similar function,[112] a perforated disc rotating in a magnetic field,[113,114] an oscillating electric circuit,[115,116,117,118] and most commonly a rotating contactor attached in some manner to the machinery to be observed.[119]

There have been a few glow-lamps which have been regulated by sound rather than by the mechanical and electrical means just mentioned. The basic principle in these is that a sound wave stimulates a transmitter and thereby sets up a flow of current which discharges the tube. In such an arrangement, if the apparatus responds faithfully to the sound, the flashes of the light will be synchronized with the movements of the sound source.

Probably the first use of this principle occurred in 1878 when Henry Edmunds, Jr., arranged a thin brass diaphragm to make intermittent contact with a metal point and thereby complete an electric current when the diaphragm was vibrated. He put a Gassiot Star apparatus in the circuit so the tube would flash when the diaphragm made contact. By voicing a sound, a pattern of flashes was obtained.[120]

Apparently no practical stroboscopic application was made of this principle until after the turn of the century. The first reference which this writer has found was published in 1914 by Seashore, who stated

[110] Harrison and Abbot, *Dictionary of Applied Physics*, 3 (1923), 543.

[111] Clary, "Le Phonoscope à Cordes Vibrantes," *Revue Scientifique*, 70 (1932), 462–467.

[112] D. Weiss, "Stroboscope à Lampe au Neon," *La Nature*, 53 (1925), 380–381.

[113] P. Hémardinquer, "Les Applications Nouvelles de la Stroboscopie," *La Nature*, 62, pt. 1 (1934), 6–11.

[114] Linckh and Vieweg, "Eine einfache Anordnung für stroboskopische Untersuchungen," *Zeits. f. Instrumentenk.*, 48 (1928), 416–421.

[115] E. E. Steinert, "Neon-electric Stroboscope," *Gen. Elec. R.*, 31 (1928), 136–139.

[116] See footnotes Nos. 105 and 106.

[117] E. L. Robertson and T. A. Rogers, "Thyratron Tube as a Stroboscope," *Gen. Elec. R.*, 36 (1933), 455–457.

[118] R. Pollak-Rudin and Leopold Stein, "Ein neues, handliches Laryngostroboskop," *Wiener Med. Wchr.*, 82 (1932), 916–917.

[119] See footnotes Nos. 101, 102, 103, 106, 109.

[120] Anon., "The Phonoscope and the Phoneidoscope," *Engineer*, 45 (1878), 421.

that it was possible to use a vacuum tube (gas filled) in place of the manometric flame on the Tonoscope. He said, "The intermittent light is . . . caused by the interruption in the primary circuit of an induction coil which has the vacuum tube in the secondary circuit." A carbon transmitter and batteries in the primary circuit supplied the necessary interruptions and current supply.[121] Evidently this system was not so practical as the manometric capsule, because the flame was used with the Tonoscope well into the 1920's.

Others also must have been interested in intermittent light sources about that time, for Crowley stated that the neon lamp was introduced as a stroboscope in 1911. However, he gave no source for his statement, and this author has been unable to trace it.

Further evidence of interest in the flashing light was found in Aston's article, published in 1919, entitled, "Neon Lamps for Stroboscopic Work."[122] He mentioned in detail his development of the tubes, but did not refer to any specific uses for them.

The first commercial apparatus, the Elverson Strobo, was introduced about 1922.[123] It used a neon lamp operated from an induction coil. A contactor was geared to the machinery to be observed so that its rotation regulated the duration and rate of the tube flash.

A year later an account was published describing a neon tube supplied from an induction coil, but in this set-up a tuning fork made and broke the primary circuit, causing the light to flash synchronously with the fork movements.[124]

One of the aims of experimenters has been to increase the light intensity from the tubes. An article in 1925 described two lamps designed to give more brilliance. One was a long tube folded many times, and the other a coiled tube. These designs helped concentrate the light on the object being observed. The interrupter for these lamps was a vibrating wire, the tension and rate of which could be regulated.[125]

The Stroborama also used a folded tube for brilliance, but it was

[121] Carl E. Seashore, "The Tonoscope," *U. of Iowa Studies in Psychology*, 16 (1914), 1–12.

[122] F. W. Aston, "Neon Lamps for Stroboscopic Work," *Proced. Camb. Phil. Soc.*, 19 (1916–1919), 300–306.

[123] F. Rawlinson, "When Optical Illusions," etc., *Sci. Amer.*, 127 (1922), 316.

[124] Harrison and Abbot, *Dictionary of Applied Physics*, 3 (1923), 543.

[125] O. Weiss, "Stroboscope à Lampe au Neon," *La Nature*, 53, pt. 1 (1925), 380–381.

controlled by a rotating contactor attached to the machinery being observed. However, instead of an induction coil, the voltage was stepped up by a transformer, and a low capacity condenser was included to intensify the flash.[126]

In 1928, Steinert presented a "Neon-electric Stroboscope," which employed a special transformer having the secondary winding around a core which was greatly reduced in cross section, thereby allowing a sharp voltage increase and consequently a very short flash. A condenser also aided in the attainment of the "peaked" voltage supply to the tube. The 110 volt A.C. line was attached to the primary of the transformer, providing the stimulus for the flash. The "effective duration of light" which he obtained was 1/50,000 sec.[127] This circuit for shortening the period of tube glow in each cycle presented a distinct forward step in intermittent light stroboscopy. Previous attempts to use electrical stimulation, such as Seashore's, must have given a somewhat prolonged flash and thus an indistinct stroboscopic image.

During the same year, Metfessel published a very brief article in which he described what was later known as the strobophotographic camera. Its principal parts were a stroboscopic disc with small holes punched where the dots are usually found, and a glow tube controlled by the voice. When the lamp glowed, the light passed through the holes on a moving film, thereby photographing the frequency changes of the lamp.[128] The activation of the tube was not described, but since reference was made to Seashore's (1914) article, the assumption is that he used that method or some modification of it.

Just two years later, Tiffin and Metfessel reported that it was possible to flash a tube "in synchronization with a sound wave by connecting it to the output of an amplifier utilizing a plate voltage of the order of 350 volts on the last tube."[129] This represented the earliest report which this author has found of a lamp being operated from a vacuum tube amplifier.

By following the growth of flashing light stroboscopy this far, a better understanding of its features has been gained. From 1930

[126] J. Boyer, "Le Stroborama," etc., *La Nature*, 53, pt. 2 (1925), 397–400.

[127] E. E. Steinert, "Neon-electric Stroboscope," *Gen. Elec. R.*, 31 (1928), 136–139.

[128] M. Metfessel, "A Photographic Method of Measuring Pitch," *Science*, 68 (1928), 430–432.

[129] J. Tiffin and M. Metfessel, "Use of the Neon Lamp in Phonophotography," *Amer. J. Psychol.*, 42 (1930), 638–639.

onward it has extended itself into many more fields. Some of the instruments have been mentioned earlier. They are interesting, but a consideration of them only serves to delay reaching the more important information on the use of the glow-lamp in laryngeal observation. Therefore they have been omitted.

Glow-Lamp Strobolaryngoscopy

As mentioned at the beginning of the previous division, glow-lamp stroboscopy was first applied to laryngoscopy in 1932. Two articles were published that year, and a careful search has resulted in finding only four others since.

The earliest, dated July, 1932, described briefly an apparatus with two important parts: an oscillating circuit which could be varied as desired, and a hot-cathode, gas-filled, "tone-frequency lamp." The oscillator was set in a small, portable case, and the lamp attached by a long, flexible cord.[130] The exact nature of the lamp was not told. However, it is assumed that the hot-cathode served to lower the necessary ignition voltage.

Examination of the movement of the vocal lips with this instrument was carried on in the traditional manner. The light was reflected on a guttural mirror ffom a concave mirror mounted on a head band. No results or statements of its efficiency were made.

In the following month another instrument was described.[131] Instead of an oscillating circuit as the flash regulator, this one used a vibrating reed carrying electrical contacts which dipped into a mercury cup. When the movement of the reed closed the electric circuit, a neon lamp glowed. By changing the frequency of the reed, the rate of flash was also changed. The lamp was mounted in front of a concave mirror on a head band.

The next two articles, chronologically, were written by Kallen and Polin in 1934 and 1935.[132,133] Both articles concerned the same apparatus, the essential parts and functions of which the authors report as follows:

[130] R. Pollak-Rudin and Leopold Stein, "Ein neues Handliches Laryngostroboskop," *Wiener Med. Wschr.*, 82 (1932), 916–917.

[131] Clary, "Le Phonoscope à Cordes Vibrantes," *Le Revue Scientifique*, 70 (1932), 462–467.

[132] L. A. Kallen and H. S. Polin, "Physiological Stroboscope," *Science*, 80 (1934), 592.

[133] ....., "Physiological Stroboscope," *Science*, 82 (1935), 377.

A tone originating in the artificial larynx is passed to the microphonic element and into the amplifier, where its electrical component is linearly increased in amplitude; thence into the amplifier's phasing and band pass filter section, where a reduction is achieved and translated in the output into a flashing of the gaseous discharge lamp at a period synchronous with the frequency of the tone emitted by the artificial larynx. Simultaneously, as a lamp held near the vibrating cords of the larynx reveals them in stroboscopic immobility, the florescent screen of the cathode ray oscillograph exhibits a wave analysis and the recording device registers and monitors the tone produced by the cordal configuration under observation.[134]

This apparatus, with its microphone, amplifier, filter, and glow-lamp, plus the checking arrangement with the oscillograph and recording instrument, has marked another step forward in glow-lamp stroboscopy. The reason for limiting observations to artificial models was not explained, but it was probably because of the comparative ease of working, and possibly the dimness of the light, which heretofore has presented a considerable problem.

Similar developments were taking place in the laboratories of the School of Speech of Northwestern University at the same time and entirely independently. A Master's thesis by Raymond Carhart, completed in 1934, used a similar, though less complicated set-up for the study of membrane movements.[135] Constant improvement has followed in connection with this writer's research.[136]

Late in 1935, West reported research using a similar though simplified form of Kallen's and Polin's apparatus. Some observations of the living larynx were attempted, but no results were reported. The traditional method of reflecting the light on the guttural mirror from a concave head mirror was used.[137] Apparently the illumination was not sufficient for such work, because artificial larynges were constructed and most of the article dealt with the observation of these. Kallen and Polin responded to West's report in a critical article in which they reiterated some of the necessary features in a voice controlled stroboscope. Little was added to their previous discussion of appa-

[134] *Ibid.*

[135] Raymond T. Carhart, "A Study of the Relation between Cushion Pipes and Sub-Glottic Resonators," M.A. thesis (Northwestern University, 1934, unpublished).

[136] George Paul Moore, "A Stroboscopic Study of Vocal Fold Movement," *Summaries of Doctoral Dissertations* (Vol. IV, Northwestern University, Chicago and Evanston, 1936).

[137] Robert West, "A View of the Larynx Through a New Stroboscope," Q. J. SPEECH, 21 (1935), 455–461.

ratus and technique, and nothing to results.[138a] West, in turn, responded, answering questions raised concerning his procedure.[138b]

Since the application of glow-lamp stroboscopy to laryngoscopy, Clary's article, published in 1932,[139] is the only one, with the exception of the present writer's dissertation, which describes the action of the vocal lips with that type of illumination. The other articles have been concerned with new apparatus, or with artificial membrane movements. It has become clear, therefore, that if glow-lamp stroboscopy is superior to other types, and it is believed to be, a real need exists for its use in observations of the living larynx.

A Review of the Results of the Strobolaryngeal Study

In 1878, Oertel reported the first attempt to observe the vocal lips stroboscopically.[140] More of his findings were published in 1882 and again in 1895.[141,142] Throughout, the opinion was expressed that the vocal lip movement was similar to that found in thin, flexible membranes having one edge free to vibrate. The direction of movement was thought to be up and down, and the pitch changes were believed to be accomplished by tension and relaxation of the lips. In the "chest" register the vocal folds were observed to vibrate as a whole; in the "middle" register a nodal line on the upper surface of each fold was seen extending anteriorally-posterially; and in the "falsetto," several nodal lines on each lip were described. A narrowing of the vocal lips during rise of pitch was observed and considered the most important factor in such changes.

Musehold and Hegener questioned the validity of some of Oertel's results on the basis of two conditions. The first was that he was unable to see the vocal folds clearly until his 1895 work, before which his theories had been formed, and the second, that

[138a] L. A. Kallen and H. S. Polin, "A Laryngo-Stroboscope and Comment upon Dr. West's Reference to Same," Q. J. Speech, 23 (1937), 119–126.

[138b] Robert West, "Gentlemen: I Stand—Corrected?" Q. J. Speech, 23 (1937), 402–409.

[139] Clary, "Le Phonoscope à Cordes Vibrantes," *Le Revue Scientifique*, 70 (1932), 462–467.

[140] M. J. Oertel, "Laryngostroboskopische Beobachtungen," etc., *Centralbl. f. d. Med. Wiss.*, 16 (1878), 99–101.

[141] ....., "Ueber d. Mechanismus d. Brust- und Falsettregisters," *Beiträge z. Biol.* (1882), 25–42.

[142] ....., "Das Laryngo-Stroboskop und die Laryngostroboskopische Untersuchung," *Arch. f. Laryngol. u. Rhinol.*, 3 (1895), 1–16.

almost all of his observations had been done on artificial models, so that when he viewed the live larynx he was influenced by what had occurred in the models.[143,144]

Koschlakoff, who furthered Oertel's investigations, also believed the vocal lips functioned like membranes. He, too, obtained most of his information from models, but did observe the larynges of two singers and noted that the vocal lips appeared thicker and wider in the "chest" register than in the "falsetto," and that the whole lip vibrated in the lower register. It was his opinion, also, that the lips may have greater closure in the "middle" than in the "falsetto" register, and he also observed that the lips had synchronous vibration in both of these registers.[145]

Very soon after Oertel's 1895 publication, Rethi reported his work on the vocal registers. The methods were similar to Oertel's and Koschlakoff's, but the results differed, particularly in relation to the nodal lines. He accepted the premise that there was a membrane-like movement, and at first believed Oertel's nodal lines did exist, but more careful work showed him that the viewing angle was responsible for the illusion, and he suspected that Koschlakoff had the same condition. Instead of the nodal lines, Rethi saw waves moving from the glottal edges across the top of the lips to the ventricles. This occurred only in the two upper registers. In the lower, the surface moved as a whole.[146,147]

One of the most important of the early investigators was Musehold, who carried out some detailed studies on the physiology of speech. His publication in 1898 set forth the views which his book later elaborated but did not change.[148,149] The principal methods

[143] A. Musehold, *Allgemein Akustik und Mechanik des Menschlichen Stimmorgans* (1913), p. 112.

[144] J. Hegener, "Die Entwicklung d. Subjectiven u. Objectiven Endolaryngealen Beobachtungsmethoden," etc., *Vox*, 31 (1921), 1–15.

[145] D. J. Koschlakoff, "Ueber die Schwingungstypen der Stimmbänder," *Arch. f. d. Ges. Physiol.* (Pflüger), 38 (1885–1886), 428–476.

[146] L. Rethi, "Experimentelle Untersuchungen über den Schwingungstypus," etc., *Sitzb. d. k. Akad. Wiss. Wien. Math.-Naturw., Kl.*, 105, pt. 3 (1896), 197. The same article was also published in *Wien. Klin. Rundschau*, 11 (1897), 88.

[147] ....., "Untersuchungen über den Schwingungsform der Stimmbander bei der verschiedenen Gesangsregistern," *Sitzb. d. k. Akad. Wiss. Wien. Math.-Naturw. Kl.*, 106, pt. 3 (1897), 66.

[148] A. Musehold, "Stroboskopische und Photographische Studien über die Stellung der Stimmlippen im Brust- und Falsettregister," *Arch. f. Laryngol. u. Rhinol.*, 7 (1897–98), 1–21.

used were stroboscopic observation and both stroboscopic and plain photography. The results led him to conclude that the vocal folds vibrated outward and somewhat upward in the manner of lips rather than membranes.

In addition, the fact that most of the pictures caught the folds in their closed position indicated, he reasoned, that that phase was longer than the open. This he associated with the supposed period when the air pressure was building up in the trachea, and by such assumption upheld Garcia's theoretical descriptions completely.

A considerable part of Musehold's time was spent investigating the conditions of the vocal folds in the various registers. It was noted, for instance, that the folds seemed flatter and only the edges moved in the "falsetto," while in the "chest" register they were more rounded and vibrated throughout their thickness. Also in the "falsetto" the glottis remained open which, he said, would allow the edges to swing upward and downward, but the air pressure probably kept them from going below their position of rest. In the "chest" register complete closure was reported. And he also found that in the highest pitches the posterior sections of the vocal lips became tightly pressed together, which prevented their movement and pushed the glottal opening anteriorward.

In 1898, Ewald reported his work, in which the "lip" action concept was upheld much as Musehold had done, and arguments were added for considering the vocal mechanism as a cushion pipe. This was significant because it established the point that sound could be produced by the lateral movements of the vibrating bodies. It was Ewald's belief that the vocal folds themselves were the sound generators.[150]

In 1908, Nagel presented the results of his observations and his experiments with "frog muscle" larynges.[151] He, too, upheld the concept of lip motion, but he was less willing to report in positive terms what he had seen. He pointed out the great disagreement which existed concerning the "registers," and said that practically nothing was known for certain about them. In opposition to Musehold and

[149] ....., *Allgemeine Akustik*, etc. (1913).

[150] J. R. Ewald, "Die Physiologie des Kehlkopfes und der Luftröhre Stimmbildung," *Handbuch d. Laryngol. u. Rhinol.* (Heymann), I, 181 (Wien, 1898), 165–226.

[151] W. Nagel, "Physiologie der Stimmwerkzeuge," *Handbuch der Physiologie* (Nagel), 4 (1908), 721.

others who considered the lips to vibrate differently in the "chest" and "falsetto" registers, Nagel believed the functioning to be essentially the same for all registers, and furthermore, that the folds probably never touched each other during phonation, even in the "chest" register. He reasoned that they were unable to stand such frequent contact without damage.

During the period from 1914 to 1921, the names of Panconcelli-Calzia and Hegener were the most outstanding. Their developments of motion picture photography of the larynx and improvements in stroboscopes and techniques have been mentioned earlier. Their studies served to unify the problems which had grown up since 1895 when strobolaryngoscopy first became a reliable means of investigation. However, neither added anything different to the points of view already expressed.

Tonndorf, in 1926, published a short article pointing out some of the difficulties in strobolaryngoscopy, in which he said also that there was complete closure of the lips in both the "chest" and the "falsetto" registers.[152]

A great deal of interest was stirred among American speech correction teachers and voice scientists between 1926 and 1928 when West and Metzger engaged in their controversy concerning laryngeal vibration.[153,154,155]

One of West's conclusions was that the vocal lips vibrated alternately in certain regions of the scale. His methods were mostly indirect, i.e., observation of artificial larynges, but he supplemented that with a small amount of strobolaryngeal examination. The direct comparison of membrane models and the living vocal lips made it clear that he assumed membrane action to occur in the larynx. Following West's first publication, Metzger planned his research to refute, if possible, what West had found. He repeated much of the former study and added X-ray photography. After covering the literature thoroughly, he assumed the "lip" theory as more nearly agreeing with the anatomical and physiological conditions. Most of the conclusions

[152] Tonndorf, "Die Schwingungszahl der Stimmlippen," *Ztschr. f. Hals-, Nasen-, u. Ohrenh.*, 15 (1926), 363–371.

[153] R. West, "The Nature of Vocal Sounds," etc., Q. J. SPEECH EDUC., 12 (1926), 244–295.

[154] ....., "The Nature of the Glottal Closure for Phonation," Q. J. SPEECH, 14 (1928), 508–522.

[155] W. Metzger, "How Do the Vocal Cords Vibrate?" Q. J. SPEECH, 14 (1928), 29–39.

from the second study contradicted those of the former, particularly regarding the alternate vibration. Metzger held that there was synchronous movement.

The strobolaryngeal work done by West and Metzger was insignificant, but Metzger contributed a valuable critical evaluation of disc strobolaryngoscopy to the field. It was pointed out that with such an instrument, if the openings in the disc were passing the light along the vocal folds, a wave-like illusion would be created. That is, while the light traveled the length of the lips, they would progress toward or away from each other. The resulting image, due to the visual lag, would be a curve, the exact form of which would depend upon the relationship between the speed of the light swing and the rate of vocal lip movement. Similarly, if the light swept from one side of the larynx to the other, alternate vibrations of the folds would be seen when the light was on one fold during part of its opening swing and on the other in the closing phase. Here again the amount of distortion would be determined by the relationship between the light sweep and the fold movements. Since the series of changes occur too fast for the eye to follow, the observer has the impression of a simultaneous upward and downward swing of the opposite folds. The latter suggestion was used by Metzger as a possible explanation of why West saw the alternate movements in the living larynx.

Within the last seven years several German laryngologists have put the strobolaryngoscope to extensive use in the examination of both diseased and healthy larynges. This represents the first extensive attempt to establish the strobsocopic method of observation as a regular part of every laryngologist's procedure. It may be the beginning of a new era in laryngoscopy, in which great masses of material relating to the functioning of the vocal lips under all conditions will be gathered. Such information is badly needed.

The four laryngologists of that group who have been most outstanding are Stern, Weiss, Maljutin, and Heymann.[156, 157, 158, 159, 160,

[156] H. Stern, "Eine Weitere Mitteilung über Ergebnisse bei der Laryngostroboskopischen Untersuchung," *Wien. Klin. Wchnschr.*, 43 (1930), 1259–1260.

[157] ....., "Zur Bedeutung und Bewartung stroboskopischer Befunde für die Pathologie der Stimme," *Zeits. f. Laryng.*, 21 (1931), 571 ff.

[158] ....., "Eine kurze Zusammenfassung des Derzeitigen Standes der Frage der Beurteilung," etc., *Monatschr. f. Ohrenh.*, 65 (1931), 691–702.

[159] ....., "Hundert Jahre Stroboskopie," *Monatschr. f. Ohrenh.*, 68 (1934), 569–585.

[161,162,163,164,165] All of them did a little missionary work by stressing the value of stroboscopy as an aid in laryngeal diagnosis. They pointed out that many times when the usual laryngoscope failed to show anything functionally abnormal the stroboscope would reveal it. The principal functional problem which concerned all of them was the variation in movement between the two lips. It was their unanimous opinion that in diseases, such as tuberculosis of the larynx and other conditions where there is an infiltration of tissue, the functioning is always disturbed. They agreed also that in many normal subjects the motion in one lip was frequently much reduced in relation to the other. Maljutin, who examined over two hundred people with the strobolaryngoscopic technique, found great variation from subject to subject in length, color, mass, and so on, of the vocal lips, and added that in about fifty percent of the subjects there was unequal vibration of the two sides. It was his opinion that the vocal fold on the preferential side was the more active.[166]

Stern and Weiss believed the variations in the apparently normal subject might be caused by differences in tension, in mass, in an impaired neuro-muscular system, in past diseases, and the like.

Although all of these investigators reported primarily on the relation of the two lips to each other, several included additional information which is pertinent here. Heymann, for instance, mentioned that he observed a wave-like vibration traveling from the ventricles to the edge of the lips in healthy larynges. He also stated that different qualities in voice showed no changes in the stroboscopic pictures.[167]

[160] D. Weiss, "Zur Funktionsfrage der Stimmlippen," *Monatschr. f. Ohrenh.*, 64 (1930), 831–836.

[161] ....., "Uber einige Stroboskopische Phänomena," *Monatschr. f. Ohrenh.*, 65 (1931), 158–165.

[162] ....., "Die Laryngostroboskopie," *Ztschr. f. Laryng., Rhin. Otol.*, etc., 22 (1932), 391–418.

[163] E. N. Maljutin, "Stroboskopische Erscheinungen bei Gesangschülern," *Acta Oto-Laryngologica*, 15 (1931), 109–119.

[164] ....., "Zur Frage der Stroboskopischen Diagnostik," *Monatschr. f. Ohrenh.*, 65 (1931), 1356–1362.

[165] O. Heymann, "Die Stroboskopie im Dienste der Laryngoskopie," *Arch. f. Ohren-, Nasen-, und Kehlkopfheilkunde*, 136 (1933), 64–116.

[166] Maljutin, "Stroboskopische Erscheinungen bei Gesangschülern," *Acta Oto-Laryngologica*, 15 (1931), 109–119.

[167] O. Heymann, "Die Stroboskopie im Dienste der Laryngoskopie," *Arch. f. Ohren-, Nasen-, und Kehlkopfheilkunde*, 136 (1933), 64–116.

Weiss took exception to Musehold's conclusion that the lips must have a lengthened closed phase since they were more easily photographed in that position, and said that it could be explained by their deviation from the tempo of the stroboscope.[168] This writer is not clear just what Weiss meant by that statement.

Stern summarized, in his excellent 1934 article, the viewpoints of the men mentioned previously here, as well as others such as Tarnaud, of France, who also frequently found the excursion of one vocal lip to be reduced in relation to the other.[169]

In an earlier section, it was pointed out that Clary was the only one of the experimenters with glow-lamp stroboscopes, besides the present writer, who used that method for examining the living larynx. He concluded that in the "chest" voice, as many had previously said, the vocal lips come in close contact, and also that there are sinusoidal waves juxtaposed along their free borders. In the "head" and "mixed" voices, he believed, the old ideas were entirely wrong. Instead of a slight opening for the "mixed" voice and fusiform opening in the "head" voice, he found in both that the opening was quite wide and that the edges of the lips formed into sinusoidal waves, giving the impression of flat waving cushions. In the lower notes of the "head" voice, the vocal folds remained slightly open, and in the higher notes of this register the posterior third of the folds stayed together, while the anterior two-thirds were slightly open. He observed also that the waves on the lips vibrated differently from each other when hoarseness was present. The point of view held in the report may be summarized in the statement, "The vocal cords ought now to be called the cushions of the larynx which strike against each other in floating curves."[170]

Summary of the Results of Strobolaryngeal Investigation

Throughout the development of strobolaryngoscopy, which was begun in 1878, a number of opinions on the functioning of the vocal folds have been expressed. Almost all phases of their action have

[168] D. Weiss, "Uber einige Stroboskopische Phänomena," *Monatschr. f. Ohrenh.*, 65 (1931), 158–165.

[169] H. Stern, "Hundert Jahre Stroboskopie," *Monatschr. f. Ohrenh.*, 68 (1934), 569–585.

[170] Clary, "Le Phonoscope à Cordes Vibrantes," *Revue Sci.*, 70 (1932), 462–467.

been included from the general form to the more specific movements associated with the several registers.

Differences of belief have accompanied almost every conclusion drawn. Some considered the vocal folds to be similar to membranes, or reeds, capable of moving up and down; others believed them to be more like lips or cushions, protruding into the air passage offering resistance to the air stream which pushes them upward and outward when the pressure becomes great enough to overcome their tension.

Differences in the other phases of their behavior have also been stated. A few believed that the mode of vibration was the same in all registers; others described nodal lines in the sagittal plane; some found no nodal lines but did report waves running laterally; and a few found transverse waves.

There was equal confusion concerning the type of closure. Some believed that the vocal lips could not come in contact during phonation; others believed that they contacted throughout their length only in the "chest" register and that there were openings in the "middle" and "falsetto" registers. Several described the opening for the high "falsetto" to occur only in the anterior half to two-thirds of the folds. Others considered the closure to occur in all registers.

Varied opinions have also been expressed regarding the relationship of the movements of the two folds to each other. Traditionally, they have been considered to move synchronously and in phase. However, some have believed them to vibrate alternately, and several have described instances where one fold was stationary, or its movements greatly reduced in relation to the other.

There were several factors which may have contributed to these varied opinions. Up until 1930, almost all experimenters who used the stroboscope in laryngeal study employed artificial or cadavers' larynges in supplementary observation. The danger of being misled by the vibration patterns of the artificial and excised larynges, when viewing the living vocal lips, has been pointed out in certain instances in the literature. There is a strong possibility that these supplementary observations have contributed to the different opinions which have been expressed. It is also probable that the belief in certain theories of movement and sound production caused experimenters to explain their observations in the light of their beliefs, and thereby to add additional misinformation to the field.

The conclusions made by a number of laryngologists in the last

seven years concerning the limited movements of one vocal fold deserve careful attention. However, they have used disc stroboscopes almost without exception, and it would, therefore, be wise to apply Metzger's criticism to their technique and to check their results with other methods of strobolaryngeal study before making an unqualified acceptance of their conclusions.

APPARATUS FOR RECORDING IMPULSE MOVEMENTS IN A THINKING-IN-LANGUAGE PROCESS

R. D. T. HOLLISTER
University of Michigan

ALL thinking in which spoken language is used involves a succession of syllabic motor impulses, each one of which has energy and takes time, and is separated in time and varied in energy from the impulses that precede and follow it. The way in which this time and energy varies in a succession of speaking impulses has a direct relation to the character and quality of both the thinking and the speaking. Upon this variation depends much of the ease, clearness and satisfaction of the thinking-speaking experience, both in the speaker and the listener. A study of these variations is intimately bound up with the practical and important educational problems of securing meaningful and expressive reading and clear and fluent public speaking, of developing an understanding and appreciation of the best in literature, of stimulating creative thinking as opposed to verbal thinking, and of training and correcting the speaking habits of children and adults. It is important, therefore, that more exact experimental knowledge of these time and intensity variations be added to our less scientific analytical and introspective knowledge. For this purpose, exact and measurable graphic patterns of these variations are highly desirable.

The attempt to get such records by kymograph, smoked paper, and voice recording apparatus directly from speech sounds and breath changes during speaking is tedious, expensive, highly technical, and in the end only partially successful. Not only is the quantity of continuous speaking that can be recorded on smoked paper limited to

a very small amount, but the total action back of a syllabic impulse is not revealed by vocal sounds in themselves, and is not definitely and easily revealed by the record of breath pressure changes in speaking. These variations in time and intensity of syllabic impulses may, however, be taken directly in graphic form from the hand in active tapping during a thinking-speaking process, and even during silent or inner speaking. Such records can be made on adding-machine paper, quickly, cheaply, and for long periods of continuous speaking.

It is not the purpose here to present evidence to show that these records taken from the hand are just as truly records of impulse movements in a thinking-in-language process as the records taken from the voice tones and the breath pressure changes. It may be stated that in general records taken from the hand show with greater clearness the patterns of time and intensity change than records taken from the voice. The reasons for this need not be considered now. In a series of experimental studies which I carried on at the University of Michigan and which are reported in part in an as yet unpublished dissertation on *The Relation Between Hand and Voice Impulse Movements*, it was found that a normal person, when told to tap, tends to tap once for and with each syllable clearly uttered. Each syllable clearly uttered is a definite motor stroke, like hitting a nail on the head, and each tap with the hand is a definite motor stroke. In each of these motor strokes there is a period of readiness-for-action, of sweep towards a climax or moment-of-hit, of holding-on or tenacity-of-action, and a period of release. When the strokes of the hand and the strokes of the voice act together during the same meaningful speaking, the individual strokes of the hand and voice normally synchronize and harmonize in intensity. They become a part of one process. They are a part of a common thinking-in-language experience. So close is this harmony of impulse action that in uttering a word like *weeks*, which has a secondary vocal stroke, a secondary stroke of the hand is also often recorded. A trembling in the voice due to emotion will also tend to show itself in the hand, especially if it is not a superficial trembling put on the voice for effect. With a small amount of practice the average normal person has no difficulty in tapping once with each syllable clearly uttered in speaking. In fact, it is the natural form of behavior. This tapping soon becomes as unconscious as the articulatory flow of syllables should be when the meaning back of the language used dominates the consciousness. In fact, the completeness and smoothness of the response in this tapping

process is a direct index of the completeness and smoothness of the articulatory flow, and of the total thinking experience itself. A little experimentation with tapping during speaking will indicate something of this.

The apparatus which I have designed and used for taking from the hand graphic records of the time and intensity variations of a thinking-in-language process is simple in its essential ideas, but not so simple in its practical and technical details. It is easy to see that if the complete movement of the hand in tapping is recorded upon a strip of adding machine paper moving at a uniform speed, the resulting curves will give an exact measure of the time for each stroke; and if not merely the height of each stroke is recorded but also its relative intensity, the curves will also give a measure of the varying intensity within and between successive strokes. The first essential of this apparatus is the easiest to perfect.

A table of normal height, four feet long by twenty inches wide, was made. The top of this table is in two layers with a half-inch space between them. Through this space the recording paper travels out of sight of the recorder except at a four-inch opening across the upper layer of the top where the recording part of the apparatus makes contact with the moving paper. At one end of this table and half way down is an adjustable mounting to hold a roll of adding machine paper and to keep it under light tension as it is unrolled. At the opposite end and part way down is mounted two rubber-covered cylinders of a washing-machine wringer, driven at the uniform desired speed by an electric motor operating through a set of reducing gears. The pressure between the two cylinders is controlled by two easily-manipulated set screws. The end of the roll of adding machine paper can be quickly adjusted between the rollers, and a constant pull upon the paper can be maintained. When the motor is turned on, the wringer pulls the paper at a continuous and uniform speed. This makes possible an unbroken record as long, if needed, as the roll of paper. As soon as the record comes from the apparatus, it is ready to study.

Several recording devices have been made and used. For simple tapping, a discarded shift key from a typewriter proved efficient. To the arm of this was soldered a clamp to carry an Eversharp pencil. This key was properly mounted and responded easily, so that with but little practice the person using it became unaware of its use, or at least undistracted in operating it. By this key a succession of

lines and spaces were made upon the moving paper. These gave exact measures of the time-of-contact and the release-time in tapping. Much is to be learned from these simple records.

This simple line-and-space type of record did not tell enough of the exact moment-of-turn when the upward movement of the hand turns to a downward movement and the tenacity of the hit-and-hold of the hand turns to a release and upward movement. A second recording device was made to record this full movement of the hand. This consisted of an upright post with an arm like a gallows to hold a flexible coiled spring connected with a pencil-like key to be held between the thumb and fingers as one would hold a pencil in writing. This key was connected below through a pulley to a device to hold a fountain pen which, attached to a second spring, moved back and forth across the recording paper during the act of tapping. With this recorder a record with continuous curves was obtained. Each individual curve was an exact measure of the duration of each tap. It could be seen easily where the downward sweep in each stroke began. Also the difference in the lengths of these strokes was an index of the varying intensity of the strokes. However, the recorder did not record the changing energy in the tap during the period of contact following the moment-of-hit. Knowledge of this changing energy was important, for it tells much of the tenacity of the attention in the thinking-in-language process.

In order to obtain a record of this changing intensity after the moment-of-hit, additions were made to this second type of recorder, so that instead of hitting a solid object in tapping, the hit was made on a spring device or an elastic drumhead. The displacement of this device depended upon the intensity and the tenacity of the hit. By this device, a complete record of the time and changing intensity of each stroke was secured and, hence, a continuous pattern of the variations in successive strokes.

Over the recording paper was also mounted a holder for a second fountain pen that could be fixed in one position and used to make a straight line to serve as a base line from which measurements of the height of the curves could be more easily made.

These are the general details of this apparatus. The exact details are hard to specify without photographs and drawings. In fact, the exact details are subject to many modifications and improvements which should interest any one with an inventive mind. The perfecting and use of an apparatus of this kind opens up many problems of practical importance in speech, psychology, and education.

STANDARDS OF CORRECT PRONUNCIATION[1]

GEORGE P. WILSON
Woman's College of the University of North Carolina

THE English language is spoken in more different places on this globe than any other tongue; it is pronounced in ways strikingly different from section to section. Even in the mother country, England, there is a great diversity of pronunciation; and in America there are three main types of pronunciation and several subsidiary ones. Confronted with such polyphonic confusion of tongues, how are we to pronounce, especially when there are so many "authorities" on pronunciation?

Whoever passes judgment upon anything must have some sort of standard by which to judge.

The standards of correctness may differ among different people, and yet each standard be equally meritorious. The English mile and the Scotch mile were formerly of different lengths; the English and the American bushel do not contain the same amounts; the English automobile has its steering wheel on the right side, ours on the left side. Yet each of these is correct in its own domain.

If people have standards by which to test their acts and products, these standards measured must have come into existence for some reason. I believe that there are at least two such reasons. The first one is *utility*. The act, the product, or the instrument must meet the demands of being useful. The second reason is beauty. The thing must appeal to our sense of the esthetic. Now the primary and important purpose of man's speech was and still is to transfer his thoughts and feelings to others—to do that which is useful. But at the same time, man has tried to make his speech sound beautiful.—And, mind you, I am not arguing whether this esthetic quality is real or imaginary.

There is no actual "standard" pronunciation either in America or in Great Britain. Dr. T. R. Lounsbury said a few years ago:

> Where exists that perfect standard which all orthoëpists assert or imply that they have furnished . . . ? From what quarter are we to look for the coming of this infallible guide for whose arrival we are longing? It seems never to

[1] Read before the North Carolina Folk-Lore Society, December 4, 1936, at Raleigh, North Carolina.

have occurred to any of the compilers of dictionaries, and to but few who consult them, that the simple solution of the whole difficulty is that in the matter of pronunciation there is no authority at all.... Pronunciation must and will vary widely among persons of equal intelligence and cultivation.... Still this belief in the existence of a standard authority is one that will die hard even among the educated class. With the semi-educated class it will never die at all."[2]

The Board of the British Broadcasting Corporation has published *Recommendations for Pronouncing Doubtful Words.* The members of this board are five notable persons: George Bernard Shaw, the great dramatist; Logan Pearsall Smith, scholar and writer; Sir Johnston Forbes-Robertson, the actor; Professor Daniel Jones, professor of phonetics (University of London) and author of a well-known dictionary on Southern British pronunciation; and Professor A. Lloyd James, university reader in phonetics (School of Oriental Studies, London) and adviser on spoken English for the British Broadcasting Corporation. The report was edited by the former Poet Laureate, Robert Bridges. It says:

[In England] we have a standard yard, a standard pound weight, a standard sovereign, and a standard pint. The yard does not vary from Aberdeen to Plymouth, and the pint pot contains as much in Mayfair as in Bethnal Green. Unfortunately speech is not capable of such rigid measurement, and there is no standard pronunciation. Pronunciation varies from district to district.... [Therefore] it is quite evident that we are not entitled to conclude that there is *one* standard pronunciation, and *one* and *only one* right way of speaking English. There are varieties that are acceptable throughout the country, and others that are not.[3]

There are five standards by which people attempt to decide how they shall pronounce words. The first one is the dictionary. It is held in such high reverence; should we always bend the knee to it? Where did the dictionary get its pronunciation? People were pronouncing their speech thousands of years before dictionaries were invented.

What may be termed pronouncing English dictionaries came into existence first during the eighteenth century. Among the most prominent eighteenth century British lexicographers were Nathaniel Bailey, Samuel Johnson, William Kenrick, Thomas Sheridan, and John Walker; among the best-known early American lexicographers were

[2] Thomas R. Lounsbury, *The Standard of Pronunciation* (New York: Harper and Brothers, c. 1904), 212–216.

[3] *Society for Pure English Tract No. XXXII* (London: Clarendon Press, 1929; republished, 1935), 9.

Noah Webster and Joseph Worcester. Bailey was the first to indicate the accent of words (1721). Johnson did not attempt to show full pronunciation; in fact, he seems to have thought it unwise to set down definite pronunciations lest he do violence to other pronunciations just as respectable.[4] The early dictionary compilers, and perhaps some of the modern ones also, derived their pronunciation from three main sources: (1) from the pronunciation of cultivated people in general; (2) from the pronunciation of certain well-known men—statesmen, speakers, actors, etc.; and (3) from the lexicographers' own notions of how words should be pronounced. This last method probably is responsible for most of the pronunciations. Concerning this last method, a brazen usurpation, Mr. H. L. Mencken declares:

> Webster ... was far more a reformer of the American dialect than a student of it. He introduced radical changes into its spelling and pronunciation, but he showed little understanding of its direction and genius.... The American language that he described and argued for was seldom the actual tongue of the folks about him, but often a sort of Volapük made up of one part faulty reporting and nine parts academic theorizing.[5]

Old Noah, as Mr. Mencken elsewhere calls him, disliked the British so much that he bent all his zealous energies to make our speech as different from the British speech as he could—even if he had to achieve his end by making it artificial in many respects. Lounsbury condemns such behavior:

> The truth is that the pronunciation of every dictionary expresses the preferences and prejudices of the particular person or persons who have been concerned in its compilation. At best it represents the taste of a select coterie to whose members the accidents of birth and training and circumstance have made familiar certain ways of pronouncing words. It is a question, indeed, ... how far any individual, no matter how vast his acquirements, how wide his acquaint-

[4] On one occasion when Boswell and Johnson were discussing pronunciation, the following conversation took place: "Boswell. 'It may be useful, sir, to have a Dictionary to ascertain the pronunciation. Sheridan, I believe, has finished such a work.' Johnson. '... Sir, what entitles Sheridan to fix the pronunciation of English? He has, in the first place, the disadvantage of being an Irishman; and if he says he will fix it after the fashion of the best company, why, they differ among themselves.... Lord Chesterfield told me that the word *great* should be pronounced so as to rime with *state;* and Sir William Yonge sent me word that it should be pronounced so as to rime with *seat*, and that none but an Irishman would pronounce it *grait.*' Now here were two men, the one, the best speaker in the House of the Lords, and the other the best speaker in the House of Commons, differing entirely.'" Boswell's *Life of Johnson.*

[5] *The American Language*, 3rd ed. (New York: Alfred A. Knopf, 1923), 7.

ance, . . . can be deemed competent, in the case of a single disputed pronunciation, to speak for the whole of the English race whose usage is entitled to consideration.[6]

It is small wonder, then, that when Noah Webster's pastor, Dr. Bacon, was corrected for pronouncing a word differently from the way it appeared in his parishioner's dictionary, the minister irately replied, "What right has Webster to dictate my pronunciation?"[7]

Dr. G. P. Krapp also lodges an indictment against the self-appointed authority of the dictionarians:

> None of the pronouncing dictionaries of the eighteenth century approached the subject of pronunciation in the spirit merely of the impartial scientific observer and recorder. Many persons still think that pronunciation is a kind of fine art, like playing the piano, which one acquires at its best only by following an authorized disciplinary method, by acquiring a system. Persons who would scorn to regulate their other social acts by the prescriptions of books of conduct, will yet regulate the social activity of speech by the rules of the dictionary. Unwilling to make decisions for themselves, and perhaps perplexed by the very great variety in practice which they observe in actual speech, they simplify the situation by accepting as final the statement of some dictionary maker who has confidence enough to set himself up as an authority.[8]

To those three sources from which lexicographers get their pronunciation, we may add a fourth, used by some of the modern lexicographers, namely, the copying of other dictionaries. Dr. Charles H. Grandgent, of Harvard University, makes this charge: "The dictionaries, which simply copy one another, afford little or no clue to our speech."[9]

The greatest sin, therefore, of our American dictionaries is that they do not represent the speech of the cultured people in the three large speech zones of America, that is, New England, the South, and the West (this term includes not only the West but much of the North and the East). Each of these types of speech goes back to certain respectable localities and periods in England. For example, about two-thirds of the settlers of New England before 1700 came from the southern and southeastern shires of England; over half of the early settlers of Virginia came from the southern shires of England; and many of the early settlers of New Jersey, Delaware, and Penn-

[6] *Op. cit.*, 222.

[7] *Ibid.*, 236.

[8] *The English Language in America* (New York: Century Company, 1925), Vol. I, 354.

[9] Quoted by Wallace Rice, "Superstitious Lexicographers," *American Speech*, December, 1928, 111.

sylvania came from the northern shires of England. Later, other groups of immigrants came in—Scotch-Irish, Scotch, Irish, and English. Educational and travel contacts between New England and England, and between the South and England tended to make some changes in New England and southern pronunciation. But whatever form of pronunciation each of these three sections has, it is inherited mainly from the mother country.

Since our first dictionaries were made by New Englanders, they are more representative of the New England speech than of any other. And the New England pronunciation is still the favored one. Next comes the Western (so-called "General American"). Our dictionaries have some curious conglomerate words in their attempt to wed New England and Western pronunciation. Consider, for instance, such a word as *laughter,* which has a New England broad *a* and a Western final *r*. The Westerner does not use a broad *a* in this word, and the typical New Englander does not pronounce the *r*.

If the southern pronunciation of a single word occurs in any American dictionary because that pronunciation is southern, I am unacquainted with it. Now this situation is rather astonishing when we realize that southern pronunciation in many respects is the same or similar to the southern British. And southern British is the type taught in the English boarding schools and the universities. It is the speech of most educated Londoners. It is the type taught in practically all continental schools and universities of Europe. And, of course, it is used on the European stage wherever English is employed. Interestingly enough, our latest dictionaries, however, very sensibly record, as such, the British (as well as the American) pronunciation of many words—*etiquette, evolution, centenary, laboratory, medicine, squirrel,* etc. They record other words with British pronunciations, without so stating—*electricity, juvenile* (and a host of other *-ile* words), *secondary, secretary,* etc.

The speech of New England is a very beautiful speech. Cultivated southern speech is good English also. Each of the three great American types of pronunciation should "share and share alike."

I own twelve dictionaries, and I consult them frequently—sometimes to my enlightenment and satisfaction, and sometimes to my befuddlement and disgust. I accept the dictionary pronunciation of classical words, of scientific words, or of any other unfamiliar words. But I do not accept the dictionary pronunciation of the ordinary "garden-variety" of words that I have heard cultured people use all my

life. Look up the pronunciation of the following words in the leading American dictionaries and see how it compares with your own pronunciation: *ask, aunt, calf, can't, dance, grass, laugh, pass,* and *salve*—all with some form of broad *a*. The flat *a* is the sound generally used in all these words in the West and in most sections of the South. (*Aunt* with a broad *a* is quite common in some parts of the South.) Notice also the dictionary pronunciation of *coop, dog, ford, great, hoop, Mrs., poor,*[10] *pretty, route, soot,*[11] *syrup,* and *with*.

Another weakness of our dictionaries is that they persist in recording some pronunciations that are exceedingly rare or are never heard except when used by persons afflicted with lexicomania—or is it lexicophobia? Here are a few such words; note their accents or their vowels as given by the dictionaries: *ar'butus, asphalt* [æsfælt], *chauffeur', fron'tier, here* [hir], *per'emptory, quin'tuplets.* The pronunciation of *here* is even worse than that of *laughter* (discussed above). I have never heard any one employ the vowel indicated by the dictionaries; it is too high (close). I am happy to testify, though, that the last editions of the Webster dictionaries do show more liberality and accuracy than the previous editions did. I believe that this new and commendable spirit is, to a great extent, due to Dr. John S. Kenyon, one of their new editors on pronunciation.

The function of a dictionary is to *describe* a language as it is, and not to *prescribe* what lexicographers think it ought to be.

The second standard of pronunciation that many people rely upon is spelling. They believe that words should be pronounced as they are spelled. Spelling was very phonetic in Anglo-Saxon and Middle English times, and even in early modern English till about the fifteenth or the sixteenth century. Of course, it is the nature of lan-

[10] In discussing the pronunciation of *poor,* Dr. Kenyon says (*American Pronunciation,* 6th ed.; Ann Arbor, George Wahr, 1935; sec. 367): "Cf. standard American [puə˞] beside Southern dialect [po(ə)] and standard British [poə] ..." Most Southerners of all classes say [poə]. *Argal,* if a Britisher should pronounce *poor* [poə], he would be using standard (good) English; but if an American should pronounce *poor* [poə], he would be using dialect! Such a statement from our dictionaries would not surprise me; but it does when coming from Dr. Kenyon—he is too sensible and liberal. I hopefully believe that there must be some sort of slip in his statement.

[11] Many southerners, who have not yet been cudgelled into submission, still pronounce the word *soot* to rime with *smut;* but *Webster's New International Dictionary,* 2nd ed., labels this pronunciation—which is well-known in America as southern—as *"Archaic, Scot., & dial."!*

guage to change its pronunciation; and this has been noticeably true of English. Until the fifteenth or the sixteenth century, whenever the pronunciation changed, the spelling changed to suit the pronunciation; but for the last four or five hundred years, the spelling has remained virtually the same, while the pronunciation has undergone some very radical changes—even in some instances returning, after a few generations, to what it had formerly been. Much of our spelling now is hardly anything more than word signs. Consider *women, fatigue, colonel, Enroughty* (pronounced "Darby," Virginia), *heifer,* and *queue.* I have heard a farm boy pronounce *heifer* as [hafə], entirely unaware that the strange spelling indicated a familiar animal; and a school child has called *queue* [kwiwi].

Then there are troublesome doubles, spelled alike but pronounced differently: *read* [rid], [rɛd]; *lead* [lid], [lɛd]; *shower* [ʃaʊə], [ʃoə]; *hough* [hɑk], "the tarsal joint in the hind limb of digitigrade quadrupeds" (such a simple definition leaves you in no doubt as to the meaning of the word!), and [hʌf], a proper name; *job* [dʒob], a sorely tried character in the Bible, and [dʒab], something several million people don't want; *sow* [so], to scatter grain, etc., and [saʊ], the female of the *genus sus.* And then there are those words pronounced alike but spelled differently. Consider: *right, rite, write,* and *wright.*

Dr. Kenyon has this to say of spelling as a guide:

> If our ordinary spelling were an accurate and consistent picture of our pronunciation, then spelling would not modify it, and the usual pronunciation of any new word could be learned from its spelling. But the fact is that we cannot be absolutely sure of the pronunciation of a single English word from its spelling alone. The everyday words that we learn to speak before we can read and spell (generally termed "familiar words") we mostly continue to pronounce with no regard to their spelling, as *know, come, listen.* But words that we learn from print or see oftener than we hear (generally termed "learned words"), we are apt to try to pronounce as the letters suggest, as *subtle, wont, gunwale.* Spelling-pronunciation is not practiced at all by the illiterate, and not to a great extent by the highly educated, who learn good pronunciation by association with good speakers, that is, from tradition. It is most common among the middle class, some of whom imagine that spelling is the language itself, and that "correctness" can be got by pronouncing according to spelling.[12]

Closely akin to the standard of spelling is that of analogy. According to this principle, some persons hold that if a given letter or combination of letters is pronounced a certain way in one word, it

[12] "Sources of Pronunciation," *American Speech,* June, 1929, 418.

should be pronounced the same way when it occurs in other words. If this principle were carried out, our language would become "confusion worse confounded." These people say, for instance, that if you call *tomato* [tŏmɑto], then you should call *potato* [pŏtɑto]; etc. If we should apply analogy to *ough* words, for example, we could concoct some rather unexpected sounds, depending upon which *ough* we used as our "key":

If *plough* spells [plaʊ],
then *cough* spells [kaʊ];
and if *through* spells [θru],
then *cough* spells [ku];
and if *tough* spells [tʌf],
then *cough* spells [kʌf].

And thus the vicious circle goes. Analogy simply will not work in English. It may sometimes help us to *remember* spelling and pronunciation, but it cannot serve as a safe guide on *how* to pronounce.

A fourth standard by which people attempt to test the correctness of their pronunciation is the pronunciation of well-known people. This standard is commendable, provided the speaker who is held as a model does not indulge in an exceptional and individual pronunciation—a brand peculiar to himself; then it would be a bad policy to follow him no matter how outstanding he may be in some other respect. I used to know a most scholarly old gentleman who pronounced the word *figure* as [fɪgə]. Although this pronunciation was once current in America and is still used in England, it is now obsolete in this country. A sufficient number of cultivated people do not use it here to justify its being regarded as desirable usage. Not long ago I heard an outstanding American authority on American literature call the word *novel* [nɑvɪl]. The president of one of our largest universities has been heard more than once to pronounce the *t* in *often;* I have heard Mr. Hoover accent the first syllable of *horizon;* and, of course, you know that Mr. Al Smith calls a *radio* a [rædĭŏ]. An exceptional pronunciation violates the principle of utility and disturbs our sense of the beautiful. However, what is at first exceptional but comes in the course of time to be used by a large number of people gradually meets these two demands, and thus becomes acceptable usage.

I now turn to the fifth and last standard of judging pronunciation—that is, testing one's pronunciation by that of a large number of cultured men and women in one's own section. By *section* I mean

New England, the South, the West, or even smaller communities that have a considerable number of cultured persons, such as Boston, Charleston, Los Angeles, Eastern Virginia, etc.

I have already attempted to show in the early part of my discussion that these sectional pronunciations are historically respectable, and that one section has as much right to representation as another. If the dictionaries, because of ignorance or provincial prejudice, ignore some types of pronunciation, we should ignore the dictionaries—and more and more people are doing so.

Since we have no academy to deal with language problems, since most scholars acknowledge that there is no "standard" English pronunciation anywhere, and since we cannot rely upon the dictionaries and the other would-be authorities, then the fifth standard would seem to be the most logical and fair test by which to determine our pronunciation, especially the pronunciation of everyday words.

Alexander J. Ellis, the great English linguist who perhaps did the most stupendous work on the pronunciation of English that has ever been done by one man, wrote with the humility and the catholicity of the true scholar these words:

> It has not infrequently happened that the present writer has been appealed to respecting the pronunciation of a word. He generally replies that he is accustomed to pronounce it in such and such a way, and has to add that he has heard others pronounce it differently, but he has no means of deciding which pronunciation ought to be adopted, or even of saying which is more correct.[13]

Dr. John S. Kenyon says concerning the proposal for recognizing only one pronunciation of English:

> ... Is it so certain ... that uniformity of speech is a supremely desirable end? It certainly is not necessary for intelligibility, for those speakers of various types of English,—Eastern, Southern, and General American, Northern and Southern British, and Standard Scotch,—who speak their own types with distinctive excellence have no difficulty in understanding one another. Moreover, there is a certain esthetic value in individuality of pronunciation. I confess I should feel a distinct loss to hear a cultivated Southerner, a Scotchman, and an Englishman all speaking alike.[14, 15]

[13] Quoted by Thomas R. Lounsbury, *op. cit.*, 237.

[14] "Correct Pronunciation," *American Speech*, December, 1928, 153.

[15] A few years ago I wrote an article in which I advocated that some able scholars bring out a pronouncing dictionary which would represent in an impartial and accurate way the cultured pronunciation of the three types of American speech ("An American Phonetic Dictionary," *American Speech*, June, 1931, 349–354). It now appears that my hope may be realized. See John S. Kenyon and Thomas A. Knott, "Problems in Editing an American Phonetic Dictionary," *American Speech*, October, 1936, 227–231.

THE STATISTICAL RELIABILITY AND VALIDITY OF THE SHIFT-OF-OPINION BALLOT

ALAN H. MONROE
Purdue University

FROM time to time, attempts have been made to determine the effectiveness of public speeches by measuring the reactions of members of the audience to them. Most of these studies have made use of one of three types of device for recording auditor's reactions, namely, attitude scales, rating scales, and shift-of-opinion ballots. The first of these devices, while probably furnishing the most valid index, is limited in usefulness by the fact that large numbers of auditors must be used to secure reliable results and the statistical labor involved is considerable; the attitude scale has proved most valuable in narrowly defined experimental investigations.[1] A discussion of the advantages as well as the strict limitations of the rating scale method for determining the effectiveness of speakers has already been published by the writer[2] and a further study will appear soon. But while the shift-of-opinion ballot of the type popularized by Woodward and Millson provides an extremely simple means of measuring speakers' effectiveness in changing opinions, and while it has been widely used in connection with public forums and audience decision debates, no attempt has been made (to the writer's knowledge) to determine the statistical reliability of the method. Without this knowledge, conclusions may be too hastily drawn from data gathered; given a method for determining this reliability, the shift-of-opinion ballot can be used much more widely for experimental purposes in place of the more complex and fatiguing attitude scales. The writer suggests two ways in which this statistical reliability may be determined:

[1] See W.K-C. Chen, "Influence of Oral Propaganda Material upon Students' Attitudes," *Arch. Psychol.*, XXIII (1933), No. 150; F. H. Knower, "Experimental Studies in Changes in Attitudes: I. Effect of Oral Argument," *Jour. Social Psych.*, VI (1935), 315 ff.; W. H. Wilke, "An Experimental Comparison of the Speech, the Radio, and the Printed Page as Propaganda Devices," *Arch. Psychol.*, XXV (1934), No. 169.

[2] A. H. Monroe, H. H. Remmers, and E. V. Lyle, "Measuring the Effectiveness of Public Speaking in a Beginning Course," *Studies in Higher Education*, No. 29; *Purdue University Bulletin*, 1936.

I. IN TERMS OF THE STANDARD DEVIATION (OR THE PROBABLE ERROR) OF MILLSON'S INDICES, *Rs* AND *Rb*.[3]

The audience reaction (Rs) is determined by Millson by the formula

$$\frac{As - Ns}{n}$$

where n = total number of auditors voting,

As = number who shifted toward the Affirmative, and

Ns = number who shifted toward the Negative.

But $\frac{As - Ns}{n} = \frac{As}{n} - \frac{Ns}{n}$; and each of these fractions is a proportion or percentage. Hence the index (Rs) is really the difference between two proportions, that is, the proportions of the audience shifting toward the affirmative and toward the negative. Now if we may assume a normal distribution to exist in the reactions of an infinite number of auditors to a speech, of which infinite number the actual audience is a random sample, then the usual formula for the standard deviation of a proportion of a Bernoulli distribution may be applied.

This formula is as follows:

$$\text{S.D. } \% = \sqrt{\frac{p\,q}{n}} \qquad (1)$$

where n = the total number; p = a percentage of that number expressed as a decimal fraction; and q = 1 − p

Thus:

$$\text{S.D.}\frac{As}{n} = \sqrt{\frac{\frac{As}{n} \times \frac{(1 - As)}{n}}{n}}; \qquad \text{S.D.}\frac{Ns}{n} = \sqrt{\frac{\frac{Ns}{n} \times \frac{(1 - Ns)}{n}}{n}} \qquad (2)$$

[3] W. A. D. Millson, "Problems in Measuring Audience Reaction," Q. J. S., XVIII (1932), 621–637; and "Measurement of Speech Values," Q. J. S., XXI (1936), 544–553.

And since the standard deviation of a difference between two proportions may be determined by the formula:[4]

$$S.D._{(x-y)} = \sqrt{S.D._{(x)}^2 + S.D._{(y)}^2} \qquad (3)$$

Then, substituting (2) in (3), we have

$$S.D._{(Rs)} = \sqrt{\frac{As}{n} \times \frac{(1-As)}{n} + \frac{Ns}{n} \times \frac{(1-Ns)}{n}} \qquad (4)$$

or, simplifying, $$= \sqrt{\frac{As(n-As) + Ns(n-Ns)}{n^3}} \qquad (5)$$

or $$S.D._{(Rs)} = \frac{1}{n} \sqrt{\frac{As(n-As) + Ns(n-Ns)}{n}} \qquad (6)$$

and $$P.E._{(Rs)} = .6745\ S.D._{(Rs)} \qquad (7)$$

The formulae above (6 and 7) may be applied directly to the data gathered for computing Millson's index, and may then be used to determine the reliability of that index in the usual way. (See any standard text on statistical methods.) A much simpler method of computing the $S.D._{(Rs)}$ is provided by the use of Dunlap and Kuntz' *Handbook of Statistical Nomographs* (World Book Co.), pp. 25 and 17. Here, from the values of *As*, *Ns* and *n*, the standard deviations of $\frac{As}{n}$ and $\frac{Ns}{n}$ may be read directly from one nomograph, and the square root of the sum of their squares from the other. The time required is about two minutes for the total operation.

The same mathematical logic applies to Millson's index $R_{(b)}$ for the audience bias, or state of opinion. Since $R_b = \frac{Ab-Nb}{n}$

then $$S.D._{(Rb)} = \frac{1}{n} \sqrt{\frac{Ab(n-Ab) + (n-Nb)}{n}} \qquad (8)$$

[4] In the present instance, this formula somewhat overstates the size of the S.D., since there should be some correlation (negative) between the size of affirmative and negative shifts. The full formula would include the term $(-2r\sigma x\sigma y)$ under the radical. In most instances, however, this correction would be slight and the omission of it tends rather to make conclusions overcautious than otherwise.

For an example of the application of the method outlined above, let us take some data furnished by Millson.[5] In his experiment a negative debate team constantly used the "conversational" mode of speaking, but was opposed by affirmative teams using, respectively, the "academic," the "exhibitory," and the "conversational" modes. The predominant shift was in all cases toward the negative, so that *Rs* was in all cases minus; however, the difference in the size of this index of shift was used to indicate the difference in "resistance" offered by the affirmative using the three different modes.

Table I contains the data presented by Millson, together with the Rs, and the S.D.$_{(Rs)}$ values computed from these data. From this table it is obvious that the negative shifts were in every case significant, since the index of net shift (Rs) is in every case more than three times its S.D. In other words, the shift was not due to chance, but rather the probabilities are over 99 in 100 that other similar audiences listening to the same performances would also have shown net shifts to the negative; likewise it may be said that the chances are over 99 in 100 that this net shift would not have been greater or less than the Rs values obtained by more than three times the S.D. values given. That is, with similar audiences, the Rs (academic mode) would be between —.024 and —.240.

TABLE I

Mode Used by Affirmative	n	As	Ns	Rs	S.D.$_{(Rs)}$
Academic	317	75	117	—.132	.036
Exhibitory	240	71	101	—.125	.044
Conversational	380	112	155	—.113	.034

(Note: Negative teams used "conversational" mode throughout.)

In Millson's experiment, however, the point of interest was the difference in effect of the three modes used. These differences may also be checked for reliability. In Table II, the differences between the Rs values for the three modes are given as derived from Table I. The S.D.'s of these differences were computed by the usual method. For example, Rs (acad.) — Rs (exhib.) = .132 — .125 = .007; S.D. (diff.) = $\sqrt{(.036)^2 + (.044)^2}$ = .057. The last two columns in Table II show the critical ratios and the chances in 100 of significance in the obtained differences.

[5] Millson, *op. cit.*, Q. J. S., XVIII, 631, Table III.

TABLE II

Modes	Diff.	SD (diff)	D / SD (diff)	Chances in 100 of Significance
Acad.-Exhib.	.007	.057	.12	55
Acad.-Conv.	.019	.050	.38	65
Exhib.-Conv.	.012	.056	.21	58

Here an interesting point should be noted: *none of the differences obtained are statistically significant.* Since the probabilities are 50 in 100 that such differences might occur by pure chance, the probabilities shown in the last column indicate that very little more than chance was operating to produce these differences experimentally obtained. The tentative inferences drawn by Millson[6] are therefore not statistically tenable so far as they rely on these particular data; *rather, these data tend to indicate that it made no significant difference what mode of speaking the affirmative team used.*

From the above analyses, the importance of determining the statistical reliability of data gathered with the shift-of-opinion ballot is made obvious. Valid conclusions can be made more precise; the limits within which they extend can be noted; and unjustified significance attached to chance variations can to a larger extent be avoided. One method of determining the reliability of the shift-of-opinion ballot has just been outlined; the second method follows.

II. IN TERMS OF THE COEFFICIENT OF RELIABILITY.

The coefficient of reliability is an index of the consistency of measurement of a test or other measuring device; it indicates the likelihood that the same phenomenon measured twice by the same device would yield the same measurement. This coefficient may be found by determining the correlation between scores made by the same subjects on different *parts* of a test (i.e., alternate items, first half vs. last half, etc.); in order to determine the reliability coefficient for the *whole* test, the Spearman-Brown formula (see any handbook of statistics) is applied to this obtained correlation between parts. This formula is based on experimental evidence showing that the reliability of a test bears a constant functional relation to its length in terms of equivalent items: the more items, the more reliable. This same formula has been shown to apply to measurements obtained on rating scales and similar devices, in which the individual rater is treated as if he were a test item. Thus the summed rating of three raters may be correlated with those of three other raters, and the

[6] *Ibid.*, 632.

Spearman-Brown formula may then be applied to determine the reliability coefficient for the total of six raters, or even (by proper substitution in the formula) for 9, 12, 18, or within limits for any other multiple of three raters.

Reliability coefficients were experimentally determined in this way for auditors using, respectively, (1) a graphic rating scale, (2) the Woodward shift-of-opinion ballot, and (3) the Thomas attitude scale (Thurstone-Remmers type). In each case, a number of auditors listening to the same speakers indicated their reactions. Assuming, on the basis of a random sampling, an equivalence between individual auditors in reliability of response, the problem became one of determining how many auditors (treated as items in a test) were required with each of the three devices to produce a satisfactory coefficient of reliability; that is, *how many auditors does it take to insure reasonable consistency between the summed reactions of one such group of auditors, chosen at random, and another equivalent group?* A reliability coefficient of .90 is usually considered adequate.

Two experiments,[7] one at Northwestern University and the other at Purdue, using 160 and 100 speakers respectively, reacted to by several equivalent, randomly selected groups of three auditors, yielded the following results:

TABLE III

No. of Auditors	3	6	9	12	27	120
Rating Scale	.68	.81	.87	.90	...	...
Woodward Ballot	.50	.67	.75	.80	.90	...
Thomas Attitude Scale	.19	.32	.41	.48	.68	.90

The coefficients in Table III were determined in each case by taking the average of twenty obtained coefficients computed from the reactions of three vs. three auditors, and by applying the Spearman-Brown formula to these average coefficients to predict the reliability of 6, 9, 12, 27, and 120 auditors.

From these results it can be seen that in the hands of auditors for the purpose of measuring reactions to speakers, the rating scale is the most reliable, the attitude scale the least so, and the Woodward Ballot is between these two. In other words, fewer auditors (12) are needed to give a consistent reaction on the rating scale than are required with the Woodward Ballot (27) or with the Attitude Scale (120).

[7] A. H. Monroe, "Experimental Studies in the Measurement and Analysis of Audience Reaction to Student Speakers," Ph.D. dissertation (1937), Northwestern University Library, Ch. II and IV.

The chief interest here lies in the coefficient of reliability found for the shift-of-opinion ballot. The experimental results indicate that it is a satisfactorily reliable instrument when the votes of an audience of thirty or more are considered. So far as the student audiences used in these experiments are comparable in consistency with other audiences, these results would indicate that considerable confidence could be placed in an audience decision based on Millson's index computed from an audience that large or larger. Indeed, the chances are very good that a random selection of thirty or forty votes from a much larger audience would give the same results as the vote of the entire audience; this fact might prove useful in determining and announcing a decision immediately after a debate when the audience is restless. In doubtful cases, however, and in all more careful work, the particular results should be checked for significance by the formulae presented under Method I above.

Of passing interest is the fact that the obtained reliability coefficients for Millson's index are consistent with the usual trend of the reliability of proportions in general. It has usually been found that proportions taken from populations of less than twenty-five are unreliable, but that above this number they become increasingly so. Apparently, proportionate shifts of opinion in relatively homogeneous audiences (college students) are consistent with the general laws of probability in this respect. This point, of course, requires further experimental inquiry.

III. THE VALIDITY OF THE SHIFT-OF-OPINION BALLOT.

So far, two methods have been presented for determining the reliability of Millson's index, and it has been shown that satisfactory reliability can be expected of results obtained from an audience of thirty or more. That is, we may expect such results to be *consistent* with those obtained from any other similar audience hearing the same speeches. But the question still remains as to whether the ballot really reflects shift-of-opinion or something else, such as judgment of the speaker's skill, personal appearance, or place on the program. Some evidence was obtained on this point in connection with the experiments mentioned above.

Attitude scales of the Thurstone type have been repeatedly shown to provide valid reflections of the social attitudes of those who mark them; the particular scale of this type used (Thomas scale) had been

specifically validated.[8] Accordingly, the correlation between shifts of opinion reported on the ballot and those indicated on the Thomas scale could be taken as an indication of the degree to which the former also reflected change of attitude. On the basis of the summed reactions of six auditors apiece to eighty different speakers, the raw correlation between Millson's index and the Thomas scale was found to be .343 ± .071. This coefficient seems low until it is remembered that with only six auditors, the reliability (or consistency) of the two devices would be quite low and their raw intercorrelation could not be very high. Indeed, even with a perfect *functional* correlation ($r = 1.00$), the experimentally obtained coefficient could not have exceeded .46 (the square root of the product of their reliabilities; or $\sqrt{.67 \times .32}$) except by chance. Taking this fact into account, and correcting for "attenuation" by the standard statistical procedure, the corrected coefficient becomes about .75,[9] which indicates a satisfactory degree of validity. On this basis it may safely be said that so far as the attitude scale used actually reflects shift of opinion due to the speech, the ballot largely does the same.

A factor analysis of auditor's observation of the speaker's behavior was later made in connection with these same experiments.[10] While space limitations prevent a complete report of that analysis here, the fact should be mentioned that the principal influence upon the shift of opinion reported on the ballot seemed to be a "general impression of the clarity and adequacy of subject matter or proof" used by the speaker,[11] and that very little separate or independent influence was exerted by the *manner* of speaking except as that manner merged into the general impression of substantiality just noted. (Indeed, over four-fifths of the total variance in opinion shift observed under the given experimental conditions was due to this one factor alone.) This fact gives further support for accepting the shift-of-opinion ballot as a valid device for measuring the influence of the speech, since it indicates that the ballot is relatively free from other extraneous influences.

[8] Dorothy T. Baines, "The Construction and Evaluation of a Scale to Measure Attitude Toward Any Proposed Social Action," *Studies in Higher Education* No. 31, 252–59, *Purdue University Bulletin*, 1936.

[9] The values obtained were actually slightly higher; see Monroe, *op. cit.*, 36.

[10] Monroe, *op. cit.*, 89 ff.

[11] *Ibid.*, 117.

SUMMARY

1. The shift-of-opinion ballot, scored in the manner suggested by Millson, seems to be a reasonably valid measure of the shift of opinion produced in an audience by a speaker.

2. Results obtained in this manner should be adequately reliable if obtained from a voting audience of thirty or more; but wherever possible, the specific reliabilities of the data should be checked by the formulae presented above.

3. No results obtained with the ballot should be accepted as significant or meaningful unless the statistical reliability of these results is computed; otherwise, results due in large part to chance variables may be erroneously accepted as significant.

4. With proper regard for statistical reliability, the shift-of-opinion ballot deserves a wider use in experimental studies because of its simplicity and the ease of scoring and computing results.

IN DEFENSE OF RICHARD WAGNER

CARLESS JONES
Albuquerque, New Mexico

ACCUSATION, explanation, ridicule, and adoration are all well known to men who create, and perhaps no individual in the fine arts world was better acquainted with all four kinds of appraisal than was Richard Wagner. What is to be said about him here can be called an explanation, but, lest adoration creep in as defense of him grows strong, it may be more accurately termed a justification — for his theories and the popularity they have won.

Attacks against Wagner take many forms, but they are nearly all related in one approach — an approach that leaves the way clear for the arriving at ingenious conclusions, most of which are shaky. They are shaky because the approach so often used is fundamentally wrong, and by means of it a true appreciation of Wagner can never be reached. I refer to the attempt to judge Wagner first as a musician; and the allied error of expecting realism from him. The truth of the matter is that Wagner was primarily a dramatist and at the same time an extreme romanticist.[1]

[1] While it is true that realism can be subdivided into romanticism and naturalism, and often is for the purpose of showing a realism that is ideal as against one that is perhaps only sordid, there is an alternative, which combines realism and naturalism under the former term and stands opposed to romanticism in its more airy and visionary sense. The alternative is used here.

Wagner himself said that his music was not operatic in the Italian sense of the word, in which the interpretation "work of music" is understood. He wanted his score to fuse with the acted story and to blend the emotion and action into a unified, continuous flow. For this new art form he used a new name, music-drama, intending to suggest a divergence from the established Italian realistic opera. The characters and the story form the basis of Wagner's art, and his music is designed to aid in the interpretation of the main issues of that story. This is the viewpoint of the true dramatist.

One should not complain that Wagner depended upon unnatural media to gain his effects. Wagner was a leader in an artistic and social swing that was up and away from the unpleasant realism and depression that grew out of the French Revolution. But he was not alone. Goethe and Schiller, and later Hugo and Liszt were in step with him, and their romantic, dreaming extravagances were in direct opposition to the stilted routine into which realism had settled. Wagner, more militant than the others, was exiled from Germany for eleven years because of his political antics, but still he wrote romantically of Germany and its people, and even went in search of more thrilling national material, which he found in the cloud-land of the Norse gods. The very intensity and greatness of his inspiration led him from the baser naturalisms of life and endowed him with interpretative powers that enabled him to make inferior men understand and thrill to his compositions. This is the work of the dramatist who is also romanticist and genius. Let the mere craftsman give us our realistic slices of life.

There is a noticeable transparency in assertions that are based upon only one controversial area, especially when that area is stretched out over the entire surface of the subject. For example, as proof for the contention that Wagner is in places only noisy and confusing and in other places unsuccessful in his efforts to be tender (and therefore not a good musician), a recent critique on Wagner[2] refers to only three works — *Tannhäuser*, *Lohengrin*, and *Die Walküre*. Cause for praise is found only in *Parsifal*.

The article informs us that the Walküre and their movements suggest neither speed, grace, nor beauty. The work is just a hodge-podge of ponderous personalities fighting to be heard above the din of brass and tympani. I have seen *Die Walküre* produced when it almost lived down to that description. But I have also seen it staged as Wagner dreamed it and wrote it — with its passion, its conflict, its supernatural forces, and its soothing tenderness deftly outlined or drained

[3] The Reverend Tyler Turner, "Less Wagner, Please," *Coronet*, Jan., 1937.

to the dregs as the story demanded. Wagner cannot be blamed for the inability of his interpreters, no matter whether the inability is due to a vocal harshness or a No. 44 waistline, or both. He did not envision a two-hundred-pound Isolde plopping down upon a defenseless Tristan.

The Walküre should not be sylph-like beings. They are hardy and strong, even though they are supernatural, and to bemoan their lack of daintiness is to show misunderstanding. It is quite evident that those who do bemoan it long for a ballet, one of those inapposite, exhibitory French sex-stimulators. Never mind the drama; that can wait. The audience wants to see the girlie-whirlies! Imagine a ballet thrown into the middle of *Tannhäuser*! Wagner was driven from Paris in 1861 because he wouldn't allow it.

Anyone who has studied Wagner knows that *Tannhäuser* and *Lohengrin* were written in what can be called Wagner's transitory or experimental period, when he was throwing off the inanities of French dilettantism and nineteenth century Italian barrel-organ melodies. If these works have tender passages that are not well done, the fault lies in the influence of established opera, which can be traced throughout *Tannhäuser*. It is absurd to hold that Wagner cannot be tender effectively. Elizabeth's Prayer from *Tannhäuser*; the Love Duet in the second act and the final scene of the last act from *Tristan*; Wotan's Farewell from *Die Walküre*; The Crowning of Sachs from *Die Meistersinger*; parts of the Rhine Journey from *Siegfried*; and passage after passage from *Parsifal* stand in refutation of the claim.

The tender instrumental passages in Wagner are to be found everywhere, and especially in the *Tristan* prelude. In the strings and wood-winds lies Wagner's tenderness; in the thoughtfulness of his orchestration; and in his incomparable diminuendos, which, more than just a fading out, carry into transition the faint, lingering impulses of an emotion, gradually resolving them, by means of subtle and almost imperceptible changes, into a satisfying and restful conclusion. *Tristan* is full of these lovely passages, and undoubtedly the greatness of the work stems directly from their convincing sentiment.

The music of *Parsifal* is exceptional, but it is not unrepresentative. It is merely the culmination of a steady progression that began shortly after *Lohengrin*. And it is not the music *per se* that makes *Parsifal* great. Played by itself before an audience that cannot associate it with the story, it is the heaviest score in all Wagner. Taken into the theatre, where it blends with and emphasizes the drama, it contributes to one of our most elevating artistic and religious experi-

ences. The score is the servant of the action and emotion of the drama. This is what makes *Parsifal* superlative.

Wagner's theory of a universal art (in which all of the arts assist in the interpretation of a central theme) comes in for its share of bombardment on the ground that it is unwieldy. It may well prove to be unwieldy in the hands of just any director. But in the hands of a Wagnerian *regisseur* who fulfills the exacting demands of that word, our most vital and exciting theatre is produced. Suffice to say that a theory attractive enough to have won the support of many leading figures in the realm of the arts, and recently to have been deemed worthy of a production investment of over $400,000,[3] is evidently based on something more substantial than a nebulous fancy.

Those who berate Wagner generally have an idol of their own. In the instance of the Reverend Mr. Turner, Bach is the favored one. Bach is an early composer; he used classical mythology; he "fulfilled the law" of formal composition; he brought his music out of his soul (we are led to wonder where Wagner found his); his music is magnificent; one trembles at the "architectural conceptions" of his contrapuntal development; and so on. There is no mention of the fact that Wagner also used counterpoint. The *Meistersinger* prelude includes a development of such significance that this overture is conceded to be one of the finest compositions in orchestral music.

I find Bach erudite and very difficult. To me, he is so formal that his every cadence seems studied and sophisticated, and a consideration of form is my only key to appreciating him. If one doesn't know what a fugue is, or to what the pedantic figurations of classical formulae represent and conform, he must find Bach unendingly monotonous and repetitious. I have never met a Bach lover who was not either a professional musician or at least an amateur well versed in music and its various schools, as, for example, the Reverend Mr. Turner. On the other hand, I have met many persons — teachers, writers, artists, business people — who love Wagner almost without knowing why. The reason is that he moves them emotionally, and emotions are democratic, not esoteric. Wagner is democratic, too, even though many vain music gossips would like to think otherwise, and the record of his works bears out this statement. Almost without exception, the critics condemned his dramas while the audiences were enthusiastic. He is one of the few composers whose efforts were appreciated by his contemporaries, if not always by his colleagues.

[3] The Reinhardt-Werfel-Weill production of *The Eternal Road*.

However, a mere statement of preference for either Wagner or Bach is of no importance. What is important is that the comparing of any eighteenth century musician with a revolutionary nineteenth century dramatist on the basis of their adherence to classical formality is a procedure as warped and unfair as the attitudes of snuff-sniffling dukes and duchesses whose tastes the classicists were careful not to offend. It is the defending of Wagner against such biased and unstable derogatory forays that is the purpose of this article. But, inasmuch as one person's opinion is no better than another's, and in view of the fact that Wagner is democratic, it would be wise to let the audiences rather than the critics settle the matter. If the German master's popularity in the musical life of 1937 is not universal and sound, how is one to explain the clamor for seats which takes place in New York, London, Bayreuth, Salzburg, Vienna, Prague, Stockholm, Helsingfors, Berlin, and wherever his works appear?

A PREVIOUS ADAPTATION OF *ROMEO AND JULIET*

LOUIS M. EICH
University of Michigan

THE Hollywood edition of *Romeo and Juliet* recalls to the mind of the student of the theater numerous previous adaptations of the great love tragedy. Our dramatic critics seem to be fairly well agreed in declaring the film version an excellent piece of work. They dwell upon the simplicity with which the story is presented, the beauty of the picturization, the able acting of Mr. Howard, Miss Shearer, and their associates. The text, state the reviewers, has been handled "reverently," and with very few changes in the lines used. With the Cambridge edition as the basic text, and under the guidance of the noted Shakespearean scholars, Professors Strunk of Cornell and Murray of Harvard, the scenario was prepared most carefully. Indeed, it would have to be a most ardent advocate of historical accuracy who would take offense at the current version of *Romeo and Juliet*. It is "fitting Shakespeare to the times," but it is done in the spirit of respect and appreciation.

By way of startling contrast to the "reverent" treatment of the famous lines in the talking picture, let us glance at the mutilation of the text in one of the most notorious adaptations out of the past, *The History and Fall of Caius Marius*, by Thomas Otway. This play was first produced in 1680 at the Duke's Playhouse in London

with Thomas Betterton, leading actor of the time, in the chief rôle. Otway transfers the Montague-Capulet feud to Rome, and finds what he evidently considers a parallel in the strife between the partisans of Marius and Sulla, rival Roman commanders.[1] Caius Marius is represented as having a son Marius (corresponding to Romeo), who is in love with Lavinia (Juliet), daughter of Metullus, who is a follower of Sulla. The tragic close is motivated differently: Marius believes Lavina dead and drinks the poison. Before he dies she awakens, and there is a final dialogue on the futility of his death. After Marius dies, Lavinia stabs herself. This prolongation of the ending was copied in other alterations. No doubt it was an attempt to heighten the pathos.

But we are interested, chiefly, in the changes in diction and lines. A few examples will be sufficient to show Otway's method if, indeed, such madness had method.

SHAKESPEARE	OTWAY
He jests at scars that never felt a wound.	He laughs at Wounds that never felt their Smart.
But soft! what light through yonder window breaks?	What Light is that which breaks through yonder Shade?
O Romeo, Romeo! wherefore art thou Romeo?	O Marius, Marius! wherefore art thou Marius?
Deny thy father and refuse thy name;	Deny thy Family, renounce thy Name;
Or, if thou wilt not, be but sworn my love,	Or if thou wilt not, be but sworn my Love
And I'll no longer be a Capulet.	And I'll no longer call Metullus Parent.
O then, I see, Queen Mab hath been with you.	Oh! the small Queen of Fairies
She is the fairies' mid-wife; and she comes	Is busy in his Brains; the Mab that comes
In shape no bigger than an agate-stone	
On the forefinger of an alderman,	
Drawn with a team of little atomies	Drawn by a little Team of smallest Atoms
Athwart men's noses as they lie asleep:	O'er Men's Noses as they lie asleep.
Her wagon-spokes made of long spinners' legs;	
The cover, of the wings of grasshoppers;	

[1] Otway may have thought that a story based on Roman history would prove more interesting than the love tale of mere Romeo and Juliet. *Julius Caesar*, *Coriolanus*, and other Roman plays were very popular at the time.

Her traces, of the smallest spider's web;	
Her collars, of the moonshine's watery beams:	
Her whip, of cricket's bone; the lash, of film;	
Her waggoner, a small grey-coated gnat,	
Not half so big as a round little worm	
Pricked from the lazy finger of a maid:	
Her chariot is an empty hazel-nut,	In a chariot of an empty Hazel-nut
Made by the joiner squirrel, or old grub,	Made by a Joiner-Squirrel:
Time out of mind the Fairies' coach-makers.	
And in this state she gallops night by night	in which State
Through lovers' brains, and they dream of love;	She gallops night by night through Lovers' Brains,
	And then how wickedly they dream all know.
O'er courtiers' knees, that dream on court'sies straight;	
O'er lawyers' fingers, who straight dream on fees:	
O'er ladies' lips, who straight on kisses dream;	
Which oft the angry Mab with blisters plagues,	
Because their breaths with sweetmeats tainted are:	
Sometimes she gallops o'er a courtier's nose,	Sometimes she courses o'er a Courtier's Nose,
And then dreams he of smelling out a suit;	And then dreams he of begging an Estate.
And sometime comes she with a tithe-pig's tail	
Tickling a parson's nose as he lies asleep,	
Then dreams he of another benefice;	
Sometimes she driveth o'er a soldier's neck,	Sometimes she hurries o'er a Souldier's Neck,
And then dreams he of cutting foreign throats,	And then dreams he of cutting foreign Throats,
Of breaches, ambuscadoes, Spanish blades,	Of Breaches, Ambuscadoes, tempered Blades,
Of healths five fathoms deep; * * *	Of good rich Winter-Quarters, and false Musters. * * *

Note that the Queen Mab speech is greatly abbreviated, the fine

"microscopic" part of the description ("her waggon spokes," etc.) being omitted.

How are we to account for this curious manhandling of lines that we consider so exquisite, by a playwright who was highly respected in his day? Thomas Otway (1651–1685) fits perfectly into the group of dramatists who flourished during the English Restoration and who dominated the theater during that period. The group includes John Dryden, John Dennis, William Davenant, and Nahum Tate, all of whom were responsible for alterations of Shakespeare's plays just as drastic as *Caius Marius*. No motive for these alterations stands out more prominently than the attempt to improve the plays by a process of "refining the diction." The adapters are quite frank. The altered versions usually have a preface in which the author, while declaring his appreciation and indebtedness to Shakespeare, explains quite ingenuously that he believes he has improved the Master's work. They felt particularly sure of their ability to "refine" Shakespeare's diction. Thus Dryden writes as if no one would disagree: "Yet it must be allowed to the present age, that the tongue in general is so much refined since Shakespeare's time that many of his words, and more of his phrases, are scarce intelligible. And of those we understand, some are ungrammatical, others coarse; and his whole style is so pestered with figurative expressions that it is affected as it is obscure." [2] He then continues by stating that in his revision of *Troilus and Cressida* he has "refined the language, which before was obsolete," and has "often drawn the English nearer to our times." In the *Defence of the Epilogue, or an Essay on the Dramatic Poetry of the Last Age*,[3] Dryden, then perhaps the leading all-round literary man of his time, makes an elaborate analysis of the diction of Shakespeare, even minutely pointing out the use of *they* instead of *them, his* when referring to *heaven, unafeared* instead of *unafraid*, etc.

This assumed advance of the age over the preceding in the use of English is a prominent topic of criticism. It is this general conception that is presented in the prologue to an alteration of *As You Like It* entitled *Love in a Forest:* [4]

> In honor to his Name, and this learned Age,
> Once more your much loved Shakespeare treads the Stage

[2] Preface to adaptation of *Troilus and Cressida*, 1679, *Works of Dryden*.
[3] *Works of John Dryden*, Scott and Saintsbury, IV, 225.
[4] Adaptation by Charles Johnson, 1723.

Another Work from that great Hand appears
His "Ore Refined," but not impaired with years.

Gerard Langbaine referred to the changes in diction particularly when, in commenting on Dryden's *Troilus and Cressida*, he stated that what Dryden borrowed from the original he "cultivated and improved." [5] In similar vein Langbaine wrote of another famous alteration, that of William Davenant's *Law Against Lovers*.[6] "Though not only the characters but the language of the whole play almost, be borrowed from Shakespeare, yet where the language is rough and obsolete, our author has taken care to polish it."

Dryden was very much averse to Shakespeare's language of passion. "Shakespeare's faults are not in the passions delineated but in the manner of expressing them." He "obscures the meaning by words, and sometimes makes it unintelligible. The fury of his fancy often transported him beyond the bounds of judgment, either in coining of new words and phrases, or racking words which were in use, into the violence of a catachresis. It is not that I would explode the use of metaphors from passion, for Longinus thinks them necessary to raise it: but to use them at every word, to say nothing without a metaphor, a simile, an image, or description, is, I doubt, to smell a little too strongly of the buskin." [7] Dryden concludes: "To speak justly of the whole matter: it is neither height of thought that is discommended, nor pathetic utterance, nor any nobleness of expression in its proper place; but it is a false measure of all these, something which is like them and is not them; it is the Bristol-stone, which appears like a diamond; it is an extravagant thought instead of a sublime one, it is a roaring madness, instead of vehemence."

These quotations are sufficient to throw light on Thomas Otway's philosophy in handling the lines of *Romeo and Juliet* in his *Caius Marius*. One might catalogue the purposes involved under the general heading of "simplification." The adapters united in declaring for more readily comprehensible statement, for a clearer presentation of the ideas. Just how this object is accomplished by substituting

He laughs at Wounds that never felt their Smart
for
He jests at scars that never felt a wound

[5] Cited in preface to *Law Against Lovers* by William Davenant. To be found in *Dramatists of the Restoration*, edited by J. Maidmant and W. H. Logan, published by W. Paterson, London, 1872.

[6] This alteration is a combination of parts from *Much Ado About Nothing* and from *Measure for Measure*.

[7] From Dryden's preface to his *Troilus and Cressida*.

may be a trifle puzzling to the modern reader, but perhaps Otway would say "it's the principle of the thing." Or perhaps the word *jests* was considered obsolete and archaic, thus interfering with simplicity and intelligibility.

One can understand, too, what Otway did to the Queen Mab speech. It was too adorned; there were too many figures of speech, too much "embroidery." Apparently the exquisite delicacy and daintiness of

> Her waggon-spokes made of long spinners' legs,
> The cover, of the wings of grasshoppers

was all lost on the mind of Otway. Mercutio's fine imaginativeness becomes dull and flat and lumbering in Otway's method. In the attempt to make the speech easy to understand, "closer to the language of our times," all poetry is most effectively eliminated. Yet in perpetrating this desecration, Otway was following the critical dictates of the leading dramatists of his day.

Reports emanate from Hollywood that *Romeo and Juliet* and *Mid-summer Night's Dream* are to be followed by screen versions of *As You Like It*, *Julius Caesar*, *Hamlet*, and *Othello*. Let us hope and pray that these great plays and those to come will all be handled in "reverential" manner. If they must be "fitted to the times" let those times present higher standards of dramatic writing than the days of Thomas Otway and his *History and Fall of Caius Marius*.

THE STATUS OF SPEECH TRAINING IN THE SECONDARY SCHOOLS OF THE CENTRAL STATES

CLARA E. KREFTING
Bradley Polytechnical Institute, Peoria, Illinois

THE Committee for the Advancement of Speech Education in Secondary Schools has been collecting information about speech training in the secondary schools for a period of five years. A summary of that information will be made in a series of three reports: one for the central states, one for the southern states, and one for the eastern and western states.

To aid the national committee in securing this information, one

associate member for each state has been appointed. The associate members for the central states are:

Illinois, Marge Biersach, Elgin High School; Indiana, Thelma Knudson, South Bend High School; Iowa, Thorrel B. Fest, Spencer High School; Kansas, Gertrude Wheeler, Topeka High School; Michigan, Merl Parks, Rochester High School; Minnesota, Franklin Knower, University of Minnesota, Minneapolis; Missouri, Martha Boyer, DeSoto High School, DeSoto; Nebraska, Edward Betz, Hastings High School; North Dakota, Florence Sharpe, Portland High School; Ohio, Dina Rees Evans, Cleveland High School; South Dakota, Isla Kilpatrick, Washington High School, Sioux Falls; Wisconsin, Lena Foley, Shorewood High School.

The report for each state follows:

Illinois

In 1932 Miss Biersach made an investigation of speech in the high schools by sending out questionnaires. Her conclusions were as follows:

Speech is gaining a foothold in the high schools of the state of Illinois, although it is still under the English departments. It is almost entirely an elective; yet all of the speech courses are by no means extra-curricular. Public speaking, debate, and dramatics have in most of the larger schools won a place in the curriculum. Courses in fundamentals and in speech correction have not been sufficiently recognized in these findings to bear mentioning. The report can only be the beginning of a long story in the study of the speech situation in the state of Illinois.

In 1937 Mr. Glenn Ross, State Teachers College, Charleston, Illinois, proved that Miss Biersach's statements were just the beginning of a long story. He investigated and reported:

The Illinois School Directory for 1936–7 annotates 303 high school teachers in the field of speech. Of this number 53 are classified as speech, 90 in public speaking, 140 in dramatics and 20 in debate.

At least 54 colleges and universities in Illinois will accept school speech units toward college entrance. Although speech is not definitely mentioned, 20 colleges accept for entrance as many high school speech units as are allowed toward high school graduation. Five colleges accept 5 units of speech; 2 colleges accept 4 units; 1 college accepts 3 units; 5 accept 2 units; 11 accept 1 unit; and 9 accept 1 unit of speech in place of fourth year English. No college has indicated a flat refusal to accept high school speech in its entrance requirements.

Mr. John A. Wieland, State Superintendent of Public Instruction, reports that many courses are being offered in debating, dramatics, and extemporaneous speaking, but that few schools offer work in phonetics or speech correction. Mr. Wieland shows a favorable attitude toward speech in his statement of teacher requirements. He says:

No specific legal qualifications have been set up for teachers of speech in Illinois, except that they must qualify as English teachers and have special preparation in the subject of speech to the extent of six semester hours of work, preferably more.

Public speaking is considered as a branch of English as far as teacher preparation is concerned. In addition to basic English courses in composition and rhetoric, teachers of public speaking should have special training amounting to at least 10 semester hours of college work.

The Illinois High School Speech League was organized in 1935 and conducts state-wide contests in debating, original speaking, extemporaneous speaking, dramatics, verse reading, oratorical declamations, humorous and dramatic readings. Over 200 high schools belong to this league and there is improvement in the contests.

A new investigation of speech training is being made by Mr. A. W. Clevenger, High School Visitor, University of Illinois.

Indiana

Mr. Myron G. Phillips, Wabash College, makes the following report:

There are 503 teachers engaged in teaching some phase of speech education in Indiana. Of this number 119 are coaching debate; 282 are teachers of classes in public speaking; 53 teach oratory; 149 teach interpretation, and 293 teach drama.

The speech contests for the state are: The Indiana State Debating League, in its ninth year; the Annual State High School Discussion League Contest had its twenty-third contest; the Wabash Oratorical Contest for Indiana High Schools, an annual contest; the State Extemporaneous Speaking Contest, in its second year; the Oratorical Declamation Contest, an annual contest at Franklin; Invitational Debate Tournament, held at Franklin College; One-Act Play Contest, sponsored by county superintendents.

Other speech activities for the state are: The Indiana Speech Association, which had its eighth meeting in 1935 (the association publishes the *Indiana Speech News*); the Annual High School Debaters' Conference, which had its sixth meeting in 1935; the Annual Drama Conference and Demonstration, which held its fourth meeting in 1935; the Mishawka Speech Club, which held its fourth annual debate conference in 1936; the Fort Wayne debating clubs, which invite debaters to conference.

Iowa

No definite survey for the state of Iowa has been reported. Mr. Barnes, of the University of Iowa, reported at the Central States Speech Association in 1937 that considerable work was being done in that state. Likewise, Mr. Earl S. Kalp, Theodore Roosevelt High School, Des Moines, Iowa, reported at the National Association of Teachers of Speech in 1936 that his city was well organized in its

teaching of speech in the high school. Courses of study for speech (including dramatics) had been drawn up. However, plans are now being made to carry out an intensive study of speech conditions in the state of Iowa. Mr. Thorrel Fest, Spencer High School, has made a questionnaire that will be sent to all speech teachers of that state. The questionnaire is very detailed with regard to purposes and contents of speech courses and reports should prove very enlightening not only as to quantity but as to quality of speech work done in that state.

Kansas

Mr. W. T. Markham, State Superintendent of Public Instruction reports as follows:

I believe that a large majority of high schools have some form of speech training. The subject is usually designated as public speaking or speech. A unit of speech training is approved in our program of studies. In a few schools two units are taught. This subject is offered in addition to either three or four units of English.

Topeka High School offers one-semester courses in speech training, public speaking, play production and stagecraft. One full-time teacher and two part-time teachers are employed.

Although no survey of the speech conditions in the state of Kansas has been made, a Master's thesis was prepared in 1930, *The Status of Dramatics in the Senior High Schools of Kansas*, by Bertha Wilson. The state course of study has a section on speech training and the State Department of Education is willing to assist in an investigation of speech work.

Michigan

Mr. Eugene B. Elliott, Superintendent of Public Instruction, reports that the speech people of his state are very much interested in their activities. He states that a revision of the secondary school curriculum is being made and that speech will be recognized. A large committee, under the direction of the Michigan Association of Teachers of Speech, have prepared *Objectives and Suggested Activities for Courses in Speech on the Elementary, Intermediate and Secondary Level.* In the foreword to that publication, Mr. Elliott says:

The interest of subject matter specialists in developing superior curriculum materials in their teaching fields is one of the more encouraging trends in curriculum development today. The present syllabus of *Objectives and Suggested Activities for Courses in Speech* affords an excellent example of what may be done by a group of specialists who are interested in providing superior materials

of instruction. We welcome the preparation of curriculum materials supplemental to those published by the Department. Though the present bulletin is in no sense an official publication of the Department of Public Instruction, I commend it to the attention of teachers who are anxious to improve the training of their children in the use of the spoken word.

Minnesota

In 1929, a survey of speech in the high schools was made by Clara E. Krefting, then at Worthington High School, Worthington, Minnesota. Her conclusions were:

All high schools are participating in some form of extra-curricular speech, but only 52 out of 264 schools, or twenty percent, have courses in speech.

In 1937, Mr. Franklin Knower, University of Minnesota, makes the following report:

The state of Minnesota has no specialized course of study in speech, although the state course of study in English calls for a six-weeks unit in oral English in the junior year. A curriculum committee of the State Association of Teachers of Speech is at work in the construction of a state course of study in speech.

A survey of speech education in public high schools of the state last spring showed that 39 percent of the larger high schools and 22 percent of the smaller offered at least one course of study in speech. Altogether 31 percent offer speech courses for some high school credit. In 16 percent of the larger schools and 23 percent of the smaller ones, the only specialized speech work is offered in the form of extra-curricular activities. About 20 percent of the schools in the state have interscholastic debate competition, whereas about 90 percent participate in some form of interscholastic declamatory contest work.

In 89 percent of the schools less than 40 percent of the students receive training in specialized speech courses. Only 1 percent of the schools require a course in speech for graduation. On the other hand, 75 percent of the school principals expressed real dissatisfaction with their speech programs. Most of these said they believed speech work sufficiently valuable to substitute speech for another course now in their curriculum.

About 75 percent of these school principals were willing to indicate that they believed a course in fundamentals of speech should be required of high school students, and that as soon as possible, they would like to hire a teacher especially prepared to do this work. The principal reasons cited for the failure to enlarge their speech program were crowded curriculum and heavy teaching loads.

Missouri

Mr. Wilbur E. Gilman, University of Missouri, reports the progress of the state through the organization of a Speech Association. He says:

The work of the Speech Association in Missouri, although extending over a

period of only four years, has already achieved definite results in focusing greater attention upon the problems of adequately training teachers of English and speech, of securing the proper emphasis upon speech training in the elementary curriculum and in the English curriculum of the junior and senior high schools, and of rewriting the state course of study in speech. It has led the Missouri State Teachers Association to create a division on extra-curricular activities dealing with problems in debate, dramatics, and home-room programs. Through its Committee on Standards it has brought to the attention of the state department and of the accrediting agencies the need of teachers especially trained in speech, and the need of speech training for all teachers. Through its periodical, *Speech News*, it has brought to the attention of teachers, principals, and superintendents the developments in speech education in Missouri and the problems yet to be faced. Its activities have led to greater interest in the colleges and universities in making adequate provision for the teaching of speech.

Ten years ago, before organized efforts were attempted, speech was neither understood nor appreciated in Missouri. Organized efforts have already accomplished noteworthy results in the following-named ways:

I. The Speech Department of the Missouri State Teachers Association under the leadership of Dr. C. M. Wise (now at Louisiana State University), broke the ice.
   A. It held annual sessions devoted to problems in speech education.
   B. It brought out a speech curriculum for the high school in 1928.
   C. It gained recognition for speech by securing entrance credit (1 unit).

II. The Speech Association of Missouri, organized four years ago, has extended the functions of the Speech Department of the Missouri State Teachers Association.
   A. It has become a co-ordinating body for the speech interests of the state.
      1. It has affiliated with several organizations within the state.
         a. It holds joint sessions with the Speech Department and Division of Extra-curricular Activities of the Missouri State Teachers Association.
         b. It holds joint sessions with the Speech Section of the Missouri Academy of Science.
         c. It holds joint sessions with the Midwest Education Conference.
         d. It holds joint sessions with the Missouri Debate Directors' Association.
      2. It has affiliated with the Central States Speech Association.
      3. It offers joint membership with the NATIONAL ASSOCIATION OF TEACHERS OF SPEECH.
      4. Its membership includes representatives of all levels and kinds of speech instruction.
   B. Its curriculum committee has been designated by the State Department to write a new course of study in speech for the high schools and to contribute to the course of study for elementary schools.
   C. Its standards committee has made progress both with the State Department and with the North Central Association.

D. Its committee on teacher training and placement has made a beginning on the problem of getting trained teachers for jobs and good jobs for trained teachers.

E. Its committee on public relations has made a beginning on the problem of informing the public concerning the nature and benefits of speech instruction.

F. Its periodical, *Speech News*, promotes professional interest and contacts and informs teachers, principals, and superintendents of new activities and developments in the field of speech.

G. It has specifically asked the universities to increase the possibilities for graduate work in speech within the state, with noticeable effect.

Conclusion

The results achieved by the Speech Association of Missouri have convinced us of its value and have led us to set new goals, such as:

1. Speech units at the district meetings of the State Teachers Association.
2. Creation of speech institutes such as Wisconsin now has.
3. Development of the public forum movement.
4. Meetings of local groups of speech teachers.

Nebraska

Mr. Chas. W. Taylor, State Superintendent of Public Instruction, believes that his state is stressing the matter of speech training. In his letter of September 27, 1937, he says:

> I would say that fully fifty percent of our Nebraska high schools are stressing speech training and many more are stressing it to some extent. We have a very fine high school debating league in Nebraska and practically four-fifths of the schools in the state emphasize declamatory work. So I feel that our schools rank fairly well in the matter of speech training.

Nebraska has just organized the Nebraska Speech Association, with Mr. F. L. Winship, Senior High School, Central City, as president. The first major work of that association will be to make a survey of the status of speech in the state of Nebraska. The purpose of the survey will be to determine what speech activities are being conducted in the schools with a view toward setting up adequate speech standards. The survey is being made by Mr. Edward Betz of Hastings High School.

North Dakota

In North Dakota's English Course of Study there are plans for the teaching of speech in the third year of high school. It is a one semester course, and still an elective as far as the state is concerned, but many high schools make it a required subject.

Professor Wm. Schrier, University of North Dakota, is conduct-

ing a detailed survey of the speech activities of the state. He is asking for reports from the superintendents of education, the teachers of dramatics, the teachers of extra-curricular speech activities, the teachers of speech correction, *et al.* The teachers of the state are making a drive to get a fundamental of speech course required for the whole state.

In the year 1936–7 there were 103 teachers of speech in the state; 14 of those teachers were in consolidated schools, 89 were in high schools. Many of them were teachers of English as well as speech.

Ohio

Mr. G. H. Reaves, State Superintendent of Public Instruction, reports that speech is offered in practically every high school in the state of Ohio with varying degrees of emphasis. In May, 1937, Mr. Bert Emsley, Ohio State University, reported that there were 550 teachers of Speech in the state in 1400 secondary schools, which included both public and parochial schools. Some high schools require speech.

There are two high school speech leagues: the Ohio High School Speech League and the National Forensic League. There are two speech associations, one for colleges and one for high schools. The secretary for the High School Speech Association is Russell Caldwell, Wooster High School, Wooster, Ohio. The plans of the association are to make surveys, to improve organization of speech work and to require speech training for all speech teachers.

The outline for the oral English, or speech, course of study for the state shows the trend of work in speech. It says that speech should be organized according to the needs of the individual pupils, and centers the work around these phases: conversation, social courtesies, speech correction, original speech, group or forum discussion, parliamentary procedure, story telling, dramatization, and oral interpretation.

South Dakota

Mr. George V. Bohman, Dakota Wesleyan University, reports that there are 140 teachers of speech, 125 teaching speech as a major subject, and 15 teaching speech as a secondary subject. In the new English course of study, a semester, English III, 1, which is fundamentals of speech, is required of all accredited high schools. The training for the teacher for such courses specifies a minor in speech as highly desirable.

There are two high school speech leagues: the South Dakota High School Forensic League, and the South Dakota High School Declamatory League. There is also a South Dakota Speech Association, Mr. Harold M. Jordan, president, Sioux Falls College, Sioux Falls, South Dakota.

Wisconsin

A very complete and thorough survey of the status of high school speech has been made of the state of Wisconsin by Mr. George Anderson of Waukesha High School. It covers 222 secondary schools of the state for the year 1933–4. Some of the conclusions are as follows:

Thirty-four percent of pupils of the state receive some speech training. The larger the high school, the greater the amount of speech training available.
Forty-three percent of classroom speech is taught in English classes.
Sixty-nine of the 222 schools have a total of 98 courses.
Forty-four of these courses are called speech.
The greatest amount of speech credit which may be earned in any high school is 2½ credits.
Approximately 90 percent of all speech courses are always elective.
The elements of speech training most frequently listed are gathering and organization of material, oral reading, extempore speaking, dramatics, voice, and impromptu speaking.
Speech units in English courses are found most frequently in courses for grades 11, 10, 9, and 12 arranged in descending order.
The average number of speech teachers per school is 1.24.
There are 264 teachers of speech in 222 secondary schools in Wisconsin.
Speech training is available to 92.6 percent of all pupils.

The University of Wisconsin has approved speech credits for entrance requirements from high schools on the same level with those of any other academic subject.

In spite of the recognition of speech work in the state of Wisconsin, the State Department of Education believes that there are still three great difficulties standing in the way of speech training in the high schools. According to Mr. John Callahan, State Superintendent, difficulties are:

How to have teachers utilize the speech learning processes rather than devote their time almost exclusively to speech analysis.

How to put speech into a crowded school program where four years of English and one of speech would "unbalance" the program.

How to overcome the difficulty that arises from the fact that we are offering speech work as both curriculum and co-curriculum activity.

RECENT TRENDS IN COLLEGE SPEECH CURRICULA

THOMAS E. COULTON
Brooklyn College

IN HIS *Lectures on Elocution* Thomas Sheridan wrote in 1763, "It is a truth well known, that when a foreigner arrives in London and enquires for a master to teach him the language of the country, there is no such person to be found; nor is there any method open to him, by which he may be assisted, in attaining a just manner of speaking English." [1] Even at so early a time, this could not have been written of our own country, for there is evidence in the records of our schools and colleges of a wide-spread interest in speech education from the beginning of the colonial period.

The vicissitudes through which this educational endeavor passed during those colonial years, the first fifty years of the republic, the post-Civil War expansion, and the first decade of our own century need not rest unknown to all that multitude of teachers and students who are workers in the field of speech today. Nor need the British and classical roots from which this activity sprang remain obscured. In the contributions of Fritz,[2] Ryan,[3] Blanks,[4] Hudson,[5] Weaver,[6] and others, both the vicissitudes and the traditions of this discipline are amply set forth.

In this study it is proposed to look back over the more recent steps taken in a long and proud journey and to discover, if possible, whether these fresh footprints indicate any wavering or confusion before the economic stresses to which we in our time have fallen heir. Has there

[1] Thomas Sheridan, *Lectures on Elocution* (new ed., London: J. Dodsley, 1787), 284.

[2] Chas. A. Fritz, *The Content of the Teaching of Speech in the American College Before 1850: with special reference to its influence on current theories* (Ph.D. thesis, New York University Library, 1928).

[3] J. F. Ryan, "Recent Tendencies in the Teaching of Public Speaking in Colleges," *English Journal* (VIII), 90.

[4] A. F. Blanks, "An Introductory Study in the History of the Teaching of Public Speaking," QUART. JOUR. SPEECH (XV; 1, February, 1929), 137.

[5] H. H. Hudson, "The Tradition of Our Subject," QUART. JOUR. SPEECH (XVII; 3, June, 1931), 324.

[6] J. C. Weaver, "A Survey of Speech Curricula," QUART. JOUR. SPEECH (XVIII; 4, November, 1932), 607.

been, for instance, during the past two decades which cover such momentous changes in our national life, a growth and an adjustment of the college speech curriculum? What, if the answer be in the affirmative, has been the nature of this growth and change? Have there been manifestations of a living nucleus of content and procedure, or has there been a complete overthrow of old and an adoption of new content and methods? Have old and new factors been joined together in a haphazard, opportune fashion, or has the trend been one which reflects something of the social and economic changes which have been evolving during this past decade? Has there been a surrender to mere fads? What of the movement toward autonomy begun so auspiciously in 1914 by the founding of the NATIONAL ASSOCIATION OF TEACHERS OF SPEECH and its JOURNAL? What has been the effect upon college speech curricula of the wide application of the elective system? These and many similar questions arise as we retrace our more recent journeyings.

The answers here set forth are the results obtained from an investigation of the catalogues of 118 institutions of higher learning — all of them colleges of liberal arts and sciences, and all of them accredited members of the five[7] sectional associations of secondary and higher schools. A representative catalogue was chosen for each of these institutions for the periods 1900–10, 1910–20, 1920–30, 1930–35. The basis for the selection of colleges from within a given section of the country is to be found in a desire to make the sampling as representative as possible. Thus, where more than one institution has been selected within a certain state, one has been a large and one a small institution, or, this being impossible, one has been supported chiefly by state and one by private funds. Colleges have been selected which are under denominational supervision as well as those under municipal or state control. Of these 91 are co-educational, 14 are colleges for women only, 13 are for men only, 19 are land-grant colleges, 2 are for Negro students only. On the point of present attendance, 40 of these colleges are institutions which have under 600 students, 35 between 600 and 2,000, 36 between 2,000 and 10,000, and 7 are divisions of institutions of over 10,000 student population. With

[7] The Middle States Association of Colleges and Secondary Schools, The New England Association of Colleges and Secondary Schools, The Association of Colleges and Secondary Schools of the Southern States, The North Central Association of Colleges and Secondary Schools, and The Northwest Association of Secondary and Higher Schools.

respect to the geographical distribution of these colleges, it may be noted that a similar effort at representative distribution has been attempted, and that they are located as follows:

Alabama	3	Nebraska	2
Arizona	1	New Hampshire	2
Arkansas	2	New Jersey	2
California	1	New Mexico	1
Colorado	2	New York	8
Connecticut	2	North Carolina	3
Delaware	1	North Dakota	2
Florida	2	Ohio	5
Georgia	3	Oklahoma	2
Idaho	2	Oregon	2
Illinois	4	Pennsylvania	6
Indiana	4	Rhode Island	2
Iowa	2	South Carolina	2
Kansas	2	South Dakota	2
Kentucky	3	Tennessee	3
Louisiana	3	Texas	3
Maine	3	Utah	1
Maryland	3	Vermont	2
Massachusetts	4	Virginia	3
Michigan	2	Washington	2
Minnesota	2	Washington, D. C.	2
Mississippi	2	West Virginia	2
Missouri	2	Wisconsin	3
Montana	1	Wyoming	1

The data obtained from the examination of the catalogues of these 118 colleges have seemed to lend themselves to two types of treatment: a tabular arrangement which makes possible a quantitative analysis, and an expository account, consisitng of quotations, which lends itself to a qualitative analysis. The conclusions, therefore, are of both a quantitative and a qualitative character. And, in the light of the extensive sampling undertaken, they are believed to have some bearing not only upon the recent trends in the speech curricula of 118 colleges, but also upon speech education in all the colleges of our country.

Perhaps the most striking conclusion to be reached concerning the speech curricula to be found in American colleges during the past two decades is the growing place it held in higher education as indicated by the total number of semesters offered throughout this period. There is evidenced an insistence upon the importance of this training for the young people who are, presumably, to take the lead

in the business, social, and public affairs of their generation — an insistence which has remained untouched by the political and economic vicissitudes through which the educational system of our country passed at various times within these years. Thus, for the period 1900–1910, 118 colleges were offering, on the average, 8 semesters[8] each of speech education; for the same number of colleges in 1910–20 the average was over 11; in 1920–30 it was close to 15; and in 1930–35 it was over 16. While the depression years after 1930 retarded this growth, it did not stop it. No ground has been lost.

The nature of this growth in the speech curricula is found to lie less in a breaking loose from old subject matter than in a setting up of new methods of approach to this old subject matter, and in adding to it new phases of our discipline which met the needs of the period. There has been a living nucleus of content and procedure, rather than change.

Thus training in forensics and disputations shades naturally into debate and argumentation; training in declamation, oratory, elocution, and similar forms of public address popular in the past century takes on the aspects of the less formalized public speaking of today, and is found offered in more recent times in courses in extemporaneous speaking, impromptu speaking, occasional speeches, etc. Additions to the speech curriculum are evidenced chiefly in the training offered in the field of oral interpretation and appreciation of literature; in the wide introduction of training in dramatic interpretation, play production and the techniques involved therein; in the training in business and professional speech, parliamentary procedure, and similar techniques of the conference, committee, and discussion group; in the introduction of a scientific approach to speech education, linking it up with physics, physiology, and psychology; and, finally, in the introduction of courses devised to correct speech defects, such as clinics, or to give instruction in the techniques of correction, such as phonetics.

There is evidence of this adjustment, likewise, in the introduction of elective courses in speech education at the turn of the century. The elective system grew hand in hand with an increase in the total and variety of courses, but at the same time there was kept a base of required work, upon which this expanded curriculum could be built, in debate, public speaking, fundamentals, etc. In 118 institutions in 1930–35 there were offered 123 required semesters, or an

[8] All figures for semesters are given in terms of three semesters per term.

average of a little over one semester for each college. Put in another way, 40 of these 118 institutions required speech for graduation, and eight more required this work for majors and minors. The wide application of the elective system, then, seems to have hampered in no way the growth of the place of speech in the college curriculum, while it has materially affected the speech training of the average student by reducing or eliminating the speech work required for graduation in so many colleges.

In offering what has been said above concerning the nature of the adjustments made in the speech curricula of these colleges, we can arrive at an answer to the next questions: Has the trend been one which grew haphazardly, or did it reflect something of the social changes taking place in the country at large, and has there been a surrender to the mere fads of any given period or section?

We have said that there is evidence of a measure of conservatism which made it possible for speech education in American colleges to maintain a certain nucleus of content while making adjustments in the approach to and application of this content. It would appear that the trend of this growth and adaptation has not been a haphazard one. Whether it has reflected something of the social changes taking place in the country at large cannot here be answered in detail, for an examination of these social changes lies outside the scope of this paper. Some hint of an affirmative answer is discoverable, however, in the nature of the adjustments and additions made. Thus, the appearance of courses in the drama, in play production and its various techniques; in the scientific aspects of speech: in corrective work and its techniques; in extemporaneous speaking, discussion, and business techniques — these would seem to indicate an awareness of certain social trends which are commonly recognized by all. There seems to have been an awareness of the emergence of the American stage as a social force rather than a mere source of entertainment. In the introduction into the speech discipline of courses in acoustics, psychology of speech, speech pathology, etc., there seems to have been a desire to recognize the unity of purpose and the interrelation of content of the various phases of the curriculum as voiced by modern educators. The introduction of corrective work would imply an awareness of the speech problems which are arising in such numbers in our country because of the admixture of new tongues and cultures with the root stock as a result of twentieth-century tides of immigration, and because of the complexities and strains of our

industrial and urban civilization. And, finally, in the introduction of training in speech methods applicable to the business office, the conference room, and average social intercourse, there has been evinced an awareness of the need to train youth to meet successfully the speech situations of everyday living.

It should be added, apropos of the last statement, that while training was being given in the speech situations of everyday experience, there was no diminution of opportunities for gaining experience in appearances upon the public platform. The number of colleges conducting societies before which were delivered debates, oratorical contests, symposia, etc., did not grow less. The "chapel" or "college exhibition," did, it is true, all but disappear; but in its place arose intercollegiate organizations interested in dramatics, debates, conferences, etc. And encouragement in these aspects of speech education was offered in an ever-increasing number of colleges in the form of prizes and academic credit.

As to the question of a surrender to fads, we feel justified in stating that no such surrender is evidenced. In a total of 1402 semesters of speech, including graduate and teachers' courses open to undergraduates, offered in 1930–35, there was but a total of 401 semesters, only five being required, in such specialized techniques as radio, play direction, costuming, stage lighting, parliamentary law, etc.

Furthermore, the question has been raised as to what effect the passing economic strain has had upon the nature and amount of speech instruction offered in American colleges. It seems fair to say that it has had little or no effect. In 1920–30 a total of 1758 semesters of speech was offered, while in 1930–35 the total was 1970. The greatest growth in the number of semesters of speech offered in the various colleges was in the south, the north central, and the northwest areas. In New England colleges there was a slight decrease — four semesters.

Commensurate with the growing place of speech education in the curricula of American colleges, there has been a tendency to unite this discipline in an autonomous organization of the nature of a department or "school." As the number of these separate departmental organizations increased, there was noticeable also a tendency where speech courses were kept within a department which included instruction in other branches, to permit them a measure of self-direction by setting up a subdivision for them alone. Thus, in 1910–20, nine such

subdivisions were listed. Many of the speech curricula which ultimately gained autonomy passed through this phase.

By 1930–35 there were in all 141 department organizations in the 118 colleges offering speech courses. This indicates that at certain colleges more than one department offered such instruction. There were listed, in addition, in this period, 16 subdivisional organizations of speech courses. That 66 of these departments bore the title "English" would indicate that, while autonomy is not completely achieved, it is, nevertheless, far advanced. The measure of this independence is further indicated by the fact that in the 75 departments offering only speech courses, there were found 1258 semesters, while in departments not confining themselves to speech alone, and in subdivisions of departments, a total of 712 semesters was offered.

In the 40 colleges having an attendance of under 600 in 1930–35, there was offered a total of 364 semesters of work in speech — an average of a little over nine. The 35 colleges which formed a part of institutions of between 600 and 2,000 attendance offered 255 semesters — an average of a little over seven. The 36 institutions having in all departments a total attendance of bewteen 2,000 and 10,000 offered 662 semesters — an average of over 18. The seven colleges which formed a part of institutions having over 10,000 attendance offered 123 semesters — an average of over 17. Thus it is seen that in the large institutions of from 2,000 to 10,000 attendance and over, the colleges of liberal arts and sciences are presenting a preponderance of the courses now offered in the speech curricula throughout the country.

Among the colleges included in this study for the period 1930–35, 91 were co-educational, 13 were open to men only, and 14 to women only.

The 91 co-educational institutions offered 1212 semesters of speech courses — an average of slightly over 13 for each institution. The women's colleges, 14 in number, offered a total of 116 semesters — an average of a little over 8 per college. The men's colleges offered 74 semesters of speech — an average of all but 6 per college.

Having set forth certain conclusions which are applicable in their scope to the whole country, it is in order now to conclude with a few considerations which apply to various sections of the country.

It is shown by the data that the institutions of the north central area led in the introduction of electives, and that they held the lead in this movement, while there was comparative slowness in the south-

ern and middle Atlantic areas in adopting it. The evidence is such as to indicate also that the north central area led clearly in the establishment of graduate schools of speech and of courses in speech pedagogy, with the South standing next in graduate offerings and the middle Atlantic area standing next in speech pedagogy. It should be noted, however, that relatively this lead of the north central area is not so great as appears upon the surface, for there are 41 institutions representing this area in this study, and but 33 for the South, 21 for the middle section, 14 for New England, and nine for the northwest.

In the introduction of courses in play production, speech correction, business and professional speech, radio, and in the scientific aspects of speech, the lead of the north central and the northwest areas was, however, not only indicated by the actual totals but by the relative figures as well. In all the other items of the curriculum no sharp demarcation is to be noted between the actual or the relative average number of semesters offered in the different areas. Speech education seems to have been a factor of about the same importance in the college curricula of the entire country.

TABLE I

Sectional Distribution of the Number of Semesters of Speech Instruction offered in One Hundred Eighteen Colleges for the Period 1910–1935

Period	1910–20		1920–30		1930–35		
Type	R	E	R	E	R	E[9]	
South				28		24	
New England			2	27	6	21	
Middle Atlantic			9	15	9	18	Argumentation
North Central				61		60	
North Western				12		13	
Total			11	143	15	136	
South			3	40	6	35	
New England			2	22	2	22	
Middle Atlantic			6	10	6	8	Basic Course
North Central			6	76	6	74	
North Western				19	2	17	
Total			17	167	22	156	

[9] R = required; E = elective.

TABLE I—(Continued)

Period	1910–20		1920–30		1930–35		
Type	R	E	R	E	R	E	
South				3		5	
New England				2		2	
Middle Atlantic			3	3	3	2	Business Speech
North Central				13		20	
North Western						3	
Total			3	21	3	32	
South				5		8	
New England				..		..	
Middle Atlantic				10	2	5	Correction
North Central				33		39	
North Western				3		5	
Total				51	2	57	
South	6	52		37		39	
New England	12	30	3	6	3	4	
Middle Atlantic	15	19	9	13	9	15	Debate
North Central	13	157		91		91	
North Western	3	12		12		15	
Total	49	270	12	159	12	164	
South		13		25		68	
New England	6	10		12		12	
Middle Atlantic		3	3	10		19	Drama
North Central	3	73		79		89	
North Western		18		6		13	
Total	9	117	3	132		201	
South	15*	10		3		3	
New England	3	2					
Middle Atlantic	40	24	2		2		Elocution
North Central	2	35					
North Western		9		2		2	
Total	60	80	2	5	2	5	

TABLE I—(Continued)

Period	1910–20		1920–30		1930–35		
Type	R	E	R	E	R	E	
South		8		8		6	
Middle Atlantic	6	5	3	5	3	5	Extemp. Speaking
New England	3		3	5	3	7	
North Central		39	2	35	2	32	
North Western		6		5		5	
Total	9	58	8	58	8	57	
South		18		43		62	
New England	3		2	5	2	8	
Middle Atlantic	3	12	3	31	3	41	Interpretation
North Central	5	82		124	2	128	
North Western		10		18		32	
Total	11	122	5	221	7	271	
South	18	10		12		10	
New England	5	16		10		8	
Middle Atlantic	13	19	5	9	5	14	Oratory
North Central	21	79		24		32	
North Western	5	12		3		3	
Total	62	136	5	58	5	67	
South				5		6	
New England				2			
Middle Atlantic	2		2	3	2	3	Parliament. Law
North Central		2		5		7	
North Western		6		2		3	
Total	2	8	2	17	2	19	
South		2		2		11	
New England							
Middle Atlantic	3			7		6	Phonetics
North Central		3		39		44	
North Western				3		5	
Total	3	5		51		66	
South				30		33	
New England				6		9	
Middle Atlantic				15		17	Play Production
North Central				168		175	
North Western				34		34	
Total				253		268	

TABLE I—(Continued)

Period	1910–20		1920–30		1930–35		
Type	R	E	R	E	R	E	
South	24	6	7	46	7	44	
New England	9	19	2	27	2	25	
Middle Atlantic	9	18	18	38	18	45	Public Speaking
North Central		97	3	88	3	93	
North Western	6	31	3	13	3	15	
Total	48	171	33	212	33	222	
South						2	
New England							
Middle Atlantic							Radio
North Central				3		9	
North Western						2	
Total				3		13	
South	19	5	8		5		
New England							
Middle Atlantic		6	3		3		Rhetoric
North Central	6	6					
North Western							
Total	25	17	11		8		
South				3		6	
New England							
Middle Atlantic				2		3	Science
North Central				8		21	
North Western				3		8	
Total				16		38	
South		6		15		20	
New England	6	9		5		2	
Middle Atlantic	2	12	2	9	2	6	Voice
North Central		6	2	24	2	26	
North Western		6		6		8	
Total	8	39	4	59	4	62	

South — 33 colleges; New England — 14 colleges; Middle Atlantic — 21 colleges; North Central — 41 colleges; North Western — 9 colleges.

SPEECH IN THE EVERY-DAY LIFE OF OUR HIGH SCHOOL STUDENTS

LENA A. FOLEY
Shorewood High School, Milwaukee, Wisconsin

AT THE first Teacher's Institute which I attended, I heard the famous slogan, "Every teacher a teacher of English." Now, we may hear, faint, but not too distant, "Every teacher a teacher of speech." Students must be heard; they must be understood; they must express themselves clearly; they must substantiate their views with reasonable proof; they must be correct; they hope to be liked: and all of these things must prevail, not in the speech class alone, but throughout the entire day — at home, on the street, and in every classroom.

"Every teacher a teacher of speech." What is the position of the speech teacher? Undoubtedly, we, like the English teachers, can expect to be held responsible for the technical matters, if our speech work is actually to function in the every-day life of our students. We must recognize as such those phases of speech training which are techniques and skills, and treat them as means, not ends. Having recognized this distinction ourselves, we must in some manner or other impress it upon our students. Good articulation, correct pronunciation, pleasing voice, effective presentation of ideas must characterize every social situation — not merely the speech class.

We have had in our school a separate Speech Department for twelve years. Required speech work has been given in the ninth grade for that long; elective courses in speech have been given to seniors for an equal time. During these years we have had our share of public acclaim and can boast a fairly long list of successful students; and yet, just this winter, the principal of our school wrote:

> In my class visits I find a common weakness in many classes. It is the willingness of the teachers to accept from pupils speech inaudible to many members of the group. There is little doubt that every pupil has sufficient physical force to make himself heard in a classroom. Why, then, does he mumble his words? Whatever the cause, the condition certainly must be remedied, for at least two reasons:
>
> 1. Class discussion is a social situation designed to enrich the outlook of every member. If pupils have difficulty in hearing, interest lags; the stimulus to attention is lost. Instead of the growth that comes from social interaction, the idea of "reciting" to the teacher takes deeper root.

2. The habit of adjusting one's voice to the demands of a situation is an essential element of an effective personality. Since social effectiveness of every pupil is a prime objective of a school, this institution cannot escape its responsibility for the development of a habitually audible voice in its pupils.

Such a criticism coming from a school in which speech is successfully established is a most serious indictment. What are we going to do about it? First of all, we are facing the issue with our students; talking to them about it; insisting upon their being heard, being understood and being definite in our own classes. Next we are not only encouraging but urging students to make use of their speech techniques. For example; those students enrolled in both social studies and speech were encouraged to use their summaries or floor talks for social studies units as speeches in speech class. These talks were outlined, given, criticized and frequently reworked before they were presented in social studies classes. Without exception, in each case in which a student did this, we found that the grades in social studies were raised to a higher level. Speeches to be given in young people's meetings in church, history reports, reports for English classes, even lodge rituals were incorporated as a regular part of the class work. Each member of the speech class kept a record of all the possible uses of his speech work in his daily life, and was given credit for recognizing them.

Next year, our senior social studies and English and speech classes are so scheduled that the students have the two subjects in consecutive periods, with the idea that a maximum amount of integration may be possible. The techniques of group discussion, interviews, floor talks, interpreting and sharing the printed page, and voice and diction will form part of the plan. Our principal has asked that we schedule at least four group discussion assemblies for next year. These will probably come largely from the social studies-English-speech set-up.

Recognizing our techniques and skills as applicable in many social situations, choosing activities which the student recognizes as vital to himself, and seizing upon each opportunity to make activities vital are long strides toward making every-day speech functional.

BEFORE AND AFTER TAKING

WINIFRED H. LITTELL
Southeastern High School, Detroit, Michigan

Once there was a young rat who could never make up his mind. Whenever his friends asked him if he would like to go out with them, he would only answer, "I don't know." He wouldn't say yes, or no either. He would always shirk making a choice.... That night there was a big crash. Down came beams, rafters, joists, the whole roof. Next morning some men came to look at the loft. One of them moved a board and saw a young rat, quite dead, half in and half out of his hole. Thus the shirker got his due.

SO RUNS the immortal rat story as it echoes and re-echoes through our speech laboratories. From east and west we come, from north and south, to read in accents varied and diverse the tale of the foolish young rat; to read and to record for immortality. What has the young rat done to deserve such fame? Why should the story of his adventures be preserved for future generations? Is there great truth hidden in these simple words? A deadly warning to shirkers? No! Harrowing and moral though the tale may be, it is not for the moral that we have brought into the classroom the magic of sound recording. Within these few lines lurk all the varying elements that comprise our daily speech. It is our effort to "speak the speech trippingly on the tongue" that intrigues us, not the charming personality of the young rat. As we turn from the microphone to play the record we have just created, we listen for the mellow beauty of our tones.

But hark! Can this be I? Surely those didactic, pounding cadences do not issue from the lips of a teacher of speech! Is it possible that a glottal stop has displaced the *t* in *wouldn't*? Whence comes that suggestion of a lisp, that exaggerated *r*, that — can I believe my ears? — that nasal twang? No, I am not a maniac. Merely a teacher of speech, hearing herself for the first time as others hear her, and holding up her hands in horror at the shock. Unable to protest, "I did not say it *that* way," for there "it" is, in a medium not to be denied — one's actual voice recorded on a little metal disc.

Into our high school classrooms come thronging eager boys and girls, mystified and curious concerning this strange course labeled "Public Speaking." They come to us shy, timid, inarticulate; their voices mumbling, guttural, harsh, strident, inaudible; unequal alike to the demands of home, school, and their social world; utterly unconscious that their failure to adjust themselves to the world in which

they live may be due, in large part, to these very inadequacies of voice and body. How best can we help the individual student, one small unit in a class of forty or more, to recognize his inadequacies and remedy them? How can we help him to become so conscious of speech and sound values in himself and others that he may make definite progress, during his course, in his daily speech activity? From my own experience comes the answer. If I, a teacher of speech, have found in the voice recording a means of checking and analyzing my own development, of how much more value could that same process be to the child just entering the field.

But how shall we take the project beyond the realm of novelty and make it contribute materially and definitely to an increased speech efficiency? The very foundation of all work in speech is the development of the ability to hear — to hear what others actually say, not what we think they say, as colored by our own speech habits; to hear our own voices as they actually sound to others, and to be able to distinguish between correct and incorrect sounds. Until we can hear our own voices, we can make very little progress. We must first learn to listen.

In this process, the recording can be of great help. Then, too, it can furnish a definite and concrete measure of progress through which the pupil himself may evaluate his accomplishment. It also gives the teacher a reminder of the original "status quo." Progress in speech habits is so gradual, one sometimes forgets just how hopeless a case seemed at the beginning of the course.

For the last four years every student in our beginning course at Southeastern High School has made a record of his voice at the beginning and at the end of his first semester and another at the end of his second semester. These records constitute a very definite and usable part of his work.

Our first records are made as soon as the class is organized, usually during the second or third week. Each student first talks briefly and informally, telling who he is and why he has taken the course; second, he reads certain specified sentences containing a variety of sounds; third, he reads as many stanzas as possible from a group selected for their definite value in voice problems.

When all the recordings have been made, we play a few of them, just to satisfy eager curiosity. For the first time in his life the student can begin to estimate the effect of his voice upon others. He can, as it were, get outside himself and listen to his own voice as if it were

another's. He can think of it as an expression of personality. He can ask himself the questions, "If I heard that voice and knew nothing of its owner, what sort of an image would it build in my consciousness? What qualities of character does it suggest? What kind of person do I see?"

After this brief introduction, we lay aside the records until the student has had enough work in voice fundamentals to give him some basis for judgment and critical analysis. Then we play for the class various records left by previous students, samples of "before and after taking." We discuss the first record and the changes that have taken place in the second and third. Then we take two or three records made by fellow students and work out together a detailed and careful analysis, using a simple chart on which to record our observations. We try to list all cases of nasality, glottal stops, poorly formed vowel sounds, feebly articulated consonants, tones inadequately sustained or lacking in resonance. Familiarity with the phonetic alphabet enables the student to record his sound impressions accurately. However, if he does not have a knowledge of phonetics, he can underline the faulty sounds and indicate in some other way his suggestion for the correct form. We play one sentence over and over, listening, discussing, arguing over sound values, details of emphasis, breath control, tone production in general, and interpretation.

Then each student works with his own recording. For those who have no phonograph at home, I arrange appointments for the use of one in the building. I find it advisable to give about four days for the work on each record. In large classes, the routine of issuing and checking their return has to be done quickly and efficiently. We use an ordinary composition notebook with the names arranged alphabetically. I divide the width of the two pages into four columns, providing a column for each record issued. At the beginning of the period, two students take charge, one issuing records, the other marking the name opposite that of the person receiving the record. When the record is turned in, the name is crossed off and the report on it checked at the same time. I find it saves time to issue all records on the same day, collect them at a specified time, and re-issue them on the following day.

After completing work on his own record, each student analyzes four others, using his chart for recording his observations. He keeps this chart for his own reference, preparing a separate report which goes first to the teacher and eventually to the student whose record

he has criticized. Thus each student has finally a report of the reaction of four others to his problems. True, all four may not agree. One says the pitch is too low, another too high. One says the tone is resonant, another that it is flat. But the very variety of these comments stimulates discussion and adds to interest in sound. Each student has learned to listen and has gradually set up for himself definite standards and values toward which he may strive.

At the end of the semester comes the second recording, with a brief, informal statement of the progress made and again some reading of prose and poetry. We play all the records for the class, and many are the expressions of interest and delight at the improvement shown by the various members. Encouraging, too, is their recognition of problems still to be solved, ideals still to be attained. As he listens, each student jots down his evaluations of the changes that have taken place and thus tests his own increased responsiveness to sound, his own gain in the use of a discriminating ear.

So endeth our first lesson. Although attainment often falls short of our ideals, it is encouraging to feel that we have taken a few steps further along the road of speech efficiency. The poor student is interested in the progress he has made, slight though it may be. The good student feels rewarded for his conscientious efforts and is encouraged to further activity.

More and more, we are finding students who have completed the speech course going back to the studio for another recording, as a check upon their continued progress. Some comments of the students themselves have proved most interesting. One says, "In the reports on my record, all the opinions were not the same, but I decided each must have some reason for his analysis, and that through more careful study of my record I might find it." Another—"I have learned to listen more closely to the voices of others, to become conscious of differences in sound that I never heard before, and to make a more intelligent effort to improve my own vowel sounds and articulation." And the following, as a tribute to speech work in general, comes from a boy whose first record showed many difficult problems: "I believe I go a little more slowly. I am not so shy in speaking in classes. I am more speech conscious than at the start. My only regret is that I did not take this course during my Freshman year. I think that Public Speaking should be emphasized to graduates of intermediate school at their entrance to high school. In fact, this course should be required of every student."

TOWARD AN IMPROVED VOCAL QUALITY

ORMOND J. DRAKE
Michigan State College

N A conservatory of music I once visited there hangs a placard bearing the assertion, "An Ounce of Quality is Worth a Pound of Technique." Although in this instance I believe the weighting of the "quality" side of the scales to be a trifle heavy, this assertion needs no support in principle. Quality of tone in a musical instrument is the most important element of the sound. Quality in the speaking voice is equally important. It is quite true that this element may be running under an assumed name at times. During a discussion of quality we hear it referred to variously as timbre, warmth, purity, vitality, naturalness, personality and even pleasantness. It matters little what we call it, the attainment of a good vocal quality is one of the goals of the human voice.

We need not enter into any of the hot controversies over standardization of speech in order to advocate a uniformly better quality for all sincere students. I am not concerned with the problem of "accepted," or as some must jokingly have it, "received" pronunciation. As long as that pronunciation is regionally acceptable it is sufficient. Whether you call *after* [æftr], [aftr] or [ɑftr], matters little to me. I shall recognize them all. I am concerned only that the vowel in question, whether (æ), (a) or (ɑ), be of good quality.

Granting that our knowledge in this field of quality improvement is slight, I think we make far too feeble an attempt to put into practice even those theories in which we tend to believe. The human voice, like all other functions involving the movement of muscles and the secretion of glands, is dependent to a great degree upon the structures involved. Nevertheless, it is difficult to imagine the Creator endowing some people with the horrible structures they must possess if we are to judge by their voices. Not all the trouble lies in structure. Some of it must lie in the use and operation of the structure. Improvement may be found in this functional aspect, and it is with the purpose in mind of showing those possibilities that I submit this paper. I realize that most of this material will be in the nature of review, but since my chief purpose lies in stressing the importance of more attention to the problem, this may be excused.

The most important steps necessary in training for better vocal

quality may be summed up in the following fields: (1) hearing, (2) breathing, (3) frontal placement, (4) valve timing, (5) adjusted muscular tonus, and (6) conscious attention during learning.

It is not possible to deny that the process of conditioning speech is based on hearing. Just how important extremely keen hearing is to speech has not been fully determined. In the matter of the development of a great pitch range in the voice, Dr. Giles W. Gray questions the necessity [1] of the ability to distinguish fine differences in pitch. This writer maintains that there is but a rough degree of correlation between the two. The same general correlation exists in the development of quality characteristics. Quality, being primarily a product of various pitches and intensities, demands the ability to recognize that certain combinations are more pleasant or acceptable than others. Although admitting that special keenness of hearing is not essential to some progress in vocal quality, it can readily be assumed that the ability to detect undesirable pitch and intensity changes is necessary to any extended quality improvement. And here, it seems to me, is a good place to begin.

At this point may I say that we now have a legitimate use for our new recording apparatus, for good quality models are quite essential. Find your best voices and record your own sound lists. It is not the function of these models to serve as the basis for imitation. Quality is, and always shall remain, a personal, inimitable thing. There will be no standardization of quality until all structural and environmental conditions of the two subjects are identical. This being manifestly impossible, no more need be said about it. Training students and instructors alike to recognize good qualities when heard, will at least give a basis for critical observation of self and others. This criticism is essential for any true progress and can best be brought about through a long period of "ear review" of as many sound combinations as one has the time to cover. Dr. Russell puts the case for training of the hearing mechanism well when he says that an "auditory darkness" might prevail [2] without the use of some sort of model as a "touchstone" for further self development. So much for the importance of hearing to quality improvement.

There is probably no field quite so fertile as that of breathing in a discussion of vocal improvement. A review of our literature will show that different theories of breathing have solved practically all

[1] QUARTERLY JOURNAL OF SPEECH (April, 1934).
[2] G. Oscar Russell, *Speech and Voice* (1931).

the vocal ills of humanity some time or other. Yet vocal ills will persist! It is only reasonable to conclude that here, then, does not lie the "secret," if there be any, to good quality. As a matter of fact, Gray and Wise in their survey book, *The Bases of Speech*,[3] point out that it makes little direct difference to quality whether the breathing is predominantly abdominal, thoracic, or "medial." Even a cursory examination of the breathing process in the normal voice will convince one that all three regions are in play. It is not so much where one breathes as how. Breathing should be steady, firm, and of sufficient capacity, but beyond this not much matters. Because abdominal breathing seems best to promote these breathing requirements, it is to be recommended. There would seem to be several arguments in favor of this last mentioned type as follows: (1) the greatest amount of work can be done in the abdominal region, (2) these muscles appear to be the most capable of those directly concerned in breathing, (3) abdominal breathing appears to keep muscular tensions away from the throat regions. It is this last element which seems to be most important when discussing quality. Too much tension in the throat is not conducive to the development of the best quality. Any signs of upper chest or "clavicular" breathing should, for this reason, be avoided.

Properly teaching this breathing is not easy. One cannot "hear" the diaphragm and abdominal muscles. And most people cannot even "feel" them. It is this lack of kinesthetic sensation that hampers the teaching of this process. Many good exercises have been developed to obtain this sensation. I shall point out but one or two. First, lie flat on the back and use the good, old-fashioned method of piling books on the abdominal region just below the zyphoid process. Don't attempt controlled breathing at this point. Merely let nature rule and observe what happens. Here the beautiful action of these muscles is best expressed. Now remove the books and replace them with the hand. From here try the "panting" exercise, exploding quick gulps of air out. It will take a little time to discover that the muscles involved have a "sense." Daily exercises of this nature, after the first few days of exhaustion are passed, will not only strengthen the activity of these muscles but will make their smoothness of action more apparent.

In addition to experiencing this kinesthetic sensation, students should get a strong visual image of the activity. I first explain the

[3] Giles W. Gray and Claude M. Wise, *The Bases of Speech* (1934).

process and illustrate by large blue prints which I have prepared to show life-size action of these muscles. I then ask the student to see this action in the mind's eye. I believe "visual imagery" plays a more important part in the learning process than we are wont to credit it with playing. To these suggestions my readers may add dozens of others to improve the "breathing for speaking" activity.

I am glad you did not throw this discussion away at this stage when you first saw the phrase, "frontal placement." I dislike the phrase myself, because I recognize that, scientifically, such a thing as "placing" the voice is an absurdity. It implies, somehow or other, that voice is a result of a thin stream of air driven at one's will toward a fixed structure. This, admittedly, is physiologically impossible. Strictly speaking, the phrase has a great deal more to do with "pitch" placement than with "frontal" placement. Yet we could hardly call it that when speaking of its importance to quality. Dr. F. Lincoln D. Holmes [4] writing on *Voice Placement* speaks of "frontal placement" as a figurative phrase which refers to a sensation that locates the voice somewhere directly behind the front teeth. Passing over this logic which would attempt to "localize" the voice, it is safe to proceed with the recommendations as they touch the matter of quality. The most important of these lies in locating the correct speaking "key" or average pitch of one's voice. There is no conclusion more certain than that which says that, quality being so inseparably linked with pitch combinations, any change in the observed pitch will result in a change in quality. The corollary that to find one's normal "key" must result in better quality is probably justified. It is not essential to this article to review the methods of doing this. I refer you to the paper by Dr. Holmes. It is safe to say that in looking for better vocal qualities we have consistently overlooked the fact that, after all, the elements of quality and pitch cannot be isolated. In this particular instance, pitch change means quality change. Far too many students persist in a useless attempt to improve the voice using a "key" not at all conducive to a good quality. In every case, a conscientious attempt should be made to identify and stabilize, for a given individual, the pitch best for him, from which all inflections may deviate.

We come now to a phase in our discussion of quality improvement which, I believe, has merited far too little attention from students of voice. I refer here to the factor of timing. Do not confuse this fac-

[4] QUARTERLY JOURNAL OF SPEECH, April, 1931.

tor with the classical element of rate. Reference is made here not to rapidity of speech flow but rather to that element of muscular activity which is implied in the sentence, "Speech must be an instantaneous and simultaneous activity of a muscular pattern." I believe that at the level of the laryngeal valve is found one of the most important muscular timing factors affecting good vocal quality. Proper speech implies more a working of the vocal folds upon the air stream than an exercise of the air stream upon the folds. Speech is possible in both ways and in a combination of the two. An example of speech primarily induced by the air stream working upon the vocal folds is found in the glottal shock preceding the vowel in such expression as "ah" [ʔɑ]. Here, apparently, the folds are literally blown open and the resulting quality could stand a great deal of improvement. The antithesis of this lies in a long drawn out aspirate attack as in "h-h-h-a [hɑ]. Primarily, this is a matter of timing. In one instance the expelled air column is late to arrive at the level of the larynx. In the second instance the vocal folds are late or the air column is ahead of time, however you wish to look at it. To promote the normal quality, this race between breath and folds should end in a tie, so that neither a glottal shock results nor an aspirate waste of air precedes the desired sound. This would tend to give the voice that smooth, flowing quality, more like the flight of a bird than the burst of a gun!

I have time and time again found this factor of laryngeal timing to be important in the problem of vocal quality. Students referred to the clinic at this institution by the Department of Education for voice correction display one of these two prominent faults far too often. It is a problem on which a great deal of work can be done, for almost all students can be taught the various degrees of timing which appear in the gamut between the aspirate attack and the glottal shock.

Another point of muscular timing importance lies at the valve provided by the action of the soft palate and the rear pharyngeal wall. In rapidly flowing speech, perfect cut-off and division of nasal from non-nasal sounds is, of course, impossible. It is not the slight carry-over of the true nasal [m], [n], or [ŋ] into the non-nasal sounds that bothers, so much as it is the persistent nasality of certain habitually questionable sounds. This is a problem common to us all and is probably one of the first detected and attacked.

In reality, there are two kinds of poor nasal quality. Both of them may be either structural or functional in origin. It is most

convenient to refer to "positive" nasality as that quality present when the air column is allowed to pass through the nasal tract on sounds other than [m], [n], or [ŋ]. This may be accounted for through damaged or lazy or inhibited muscular activity, principally of the pharyngeal constrictors and the palatal muscles. Again, it may be due to structural mal-formations such as the cleft palate. "Negative" nasality is that quality resulting from a stoppage of the nasal tract on the three sounds, [m], [n], or [ŋ]. This, too, may be either due to temporary conditions such as an extreme head cold during which the nostrils are almost completely closed, or it may be due to structural mal-formations. When an individual combining both "positive" and "negative" nasalities is observed, we are listening to one of the worst types of quality imaginable. It should in any case be first determined which type of nasality is present. Structure should then be observed with a view toward the possible correction of any malformation. From here on muscular activity and training must be considered and the teacher must devise as many ways of exercising pharyngeal constrictors and palatal muscles as possible.

Much has been written on the value of relaxation to vocal quality improvement. Part of the secret of a happy life probably lies in a consciously controlled musculature. Many a man is better than his neighbor because he has the ability to let all tension go when he so wills. But once in a while this term "relaxation" has carried us too far in our attempt to obtain a good vocal quality.

We speak of "complete relaxation" of all throat muscles during vocalization, yet if we were to substitute the phrase "correct tonus" for "complete relaxation" we should be much closer to the truth. There is not, for example, "complete relaxation" of the pharyngeal constrictors during good quality production. Many writers, foremost among them Dr. G. Oscar Russell, mentioned earlier in this article, have held the thesis that the surfaces of the resonating areas play an important part in quality modification. A completely relaxed muscle is a dampener. A completely contracted muscle probably tends toward making the quality strident. There must lie between these two a happy medium. I can best refer to this as the correct tonus, and assert that it is the state of contraction between two counteracting muscle sets which results in the most preferred quality.

Briefly, then, complete relaxation is not the goal. Muscular tonus which gives voice all the best characteristics of clearness, roundness, vitality and the like which we attribute to the normal quality, is the best "state of the muscles."

I have intimated previously that for any prolonged improvement in quality, a constant mental attention is necessary. I believe this mental discipline during the application of these principles to be far more important than we give it credit for being. I have observed teachers working diligently on students when I was certain the attention of the students was on some subject far removed from the problem at hand. The individual must be taught to think, think, think, of the principles being applied. Practice does not make perfect. Practice of the "correct" makes perfect. The practice of this "correct" requires constant mental review of the process with which one is concerned. Teach the student to see a picture of everything which takes place. When first working on hearing during the playing of good model records, have him describe what the sound looks like. It is a round, silver-colored ball! Have him visualize the action of abdominal muscles, including diaphragm—point out the race between the air column and valve of the larynx. He can then see that the two come together as a co-operative operation in the phonation phase of voice. In working on correct muscular tonus, he should visualize not a slacking of muscles on either side of a wall, but a finely balanced activity which presents a quick-acting and firm mechanism.

In brief summary, speech is a learned process. The vocal part of speech presents as many possibilities for improvement in the average person as any phase of that process. In our attempt to build into habit the best practices we know, all the faculties for learning we possess should be brought into play. I have attempted only to intimate the more important phases of improvement of vocal quality. Common sense tells us that much has been omitted. Individual differences in the subjects with whom we work will always compel additional measures and changes in technique.

A CHILD GUIDANCE CLINIC THROUGH SPEECH

EDNA DOROTHY BAXTER
University of Denver

THE purpose of this article is to outline the theories, practical methods and materials used in the Child Guidance Clinic through Speech in Denver, Colorado. For the past five years the clinic has ministered to the behavior problems of children from the ages of four to fourteen. The speech materials used in this clinic have been included among the texts used in some of the classes at the University of Denver.

I. Purposes of the Child Guidance Clinic Through Speech

The first purpose of the Child Guidance Clinic through Speech is to help correct negative behavior patterns and attitudes. This purpose is not predicated on society's demands for certain types of behavior, but upon the desirability of mental attitudes that are healthy, that are conducive to the child's development and growth, and that tend to prepare him adequately to make a social contribution. The child who is distressed and disturbed because of insecurity, jealousy, and fears has little objectivity regarding his own behavior, and he is usually making demands from society rather than making a contribution to it. This first purpose is two-fold: it seeks to ascertain the undesirable responses that the child makes to life situations and the causes that motivate these responses; and it seeks to apply corrective training through speech vehicles.

The second purpose of the clinic is to prepare children to solve their future problems by teaching them objective attitudes in emotional control. If we can teach the normal child an objective method of emotional control and prepare him for the temptations that he is sure to meet, he may then solve those problems without personal evaluation and subjective considerations.

The third purpose of the clinic is speech correction and development. It is usually true that the child who is having speech difficulties is also having social difficulties, and his speech habits should be corrected at the same time that he is taught such behavior as will accord with social ethics.

II. Assumption Underlying the Procedure of the Clinic

Morgan [1] has pointed out that the range of suggestibility lies between extreme gullibility and extreme negativism. He has also stated that unless life situations have distorted the child's behavior toward negativism, he is usually quite suggestible. Children may be motivated toward good behavior through suggestion and through education in how to solve their problems. The more subtle we make character education, the more successful it is likely to be.

Plays and pantomimes are particularly adaptable to the needs of a clinic as a vehicle for conveying suggestion, because they are the child's natural mode of expression. Piaget [2] points out that the child's world is a land of play and make-believe, and that if we would reach him, we must go to him in his world, for he cannot come to us in our world, since he does not understand it. A clinic may utilize dramatic training as the vehicle through which one may reach children and teach them attitudes that are socially desirable, for through little plays, sketches, readings, and other types of speech training, suggestions of better behavior may be conveyed to them without their being aware of the training.

Motor re-education, as in pantomime, is of value in a clinic, because correction involves changes in the child's motor activity as well as his strictly mental activity. The muscles and the nerves of the body make responses to the child's experiences, and if he fears something, dislikes someone, or does not anticipate with pleasure some situation, he will turn from that activity; in such a case, the motor responses must be reconditioned even more necessarily than the mental change of attitude. It is therefore assumed that pantomime, as a form of motor re-education, is of value in a clinic, because through it suggestions of good behavior may be administered in a very short time. In addition, the child may be taught motor coordination and grace, both requisite factors in personality adjustment and pleasing behavior.

III. Diagnostic Procedures of the Child Guidance Clinic Through Speech

A case history of the child's health record is obtained before any corrective work is begun in the clinic. Many diseases leave perma-

[1] J. J. B. Morgan, *Child Psychology* (Macmillan, 1931).

[2] Jean Piaget, *Judgment and Reasoning in the Child* (London: Harcourt, Brace, 1928).

nent effects upon the child's behavior habits, and a nervous, sickly child does not respond to correction as does a healthy one.

After the case history is obtained, an intelligence test is administered if possible. It has been the experience of this clinic that children with IQ's above normal react more quickly to behavior correction than those of normal or below normal intelligence. One should not expect the border-line child to respond as readily as the child of higher mentality, because the former cannot see the reasoning in a situation. Behavior guidance should be more subtle for children of high intelligence than for children of lower IQ. Children of lower mentality are helped more by specific direction in healthy behavior.

The Baxter Child Personality Test [3] has been used in the Clinic in Denver, and its standardization shows a high reliability and validity. This instrument tests the child's responses to concrete life situations in the home, in the school, and during playtime. The technique in administering the test is similar to the methods used in giving the Stanford Revision of the Binet-Simon Test for IQ. It is never sufficient to know that a child is selfish, timid, or domineering; the greater value lies in the knowledge of why the child behaves so. The Baxter Test is designed for diagnostic purposes.

The implications of the test on the home situation are very pertinent. Home co-operation facilitates behavior correction, but if the parents refuse to help, or if they are indifferent, there is much that the clinician or instructor may do without parental co-operation. She may help the child to attain a more objective view of his home, she may help him to be less emotionally disturbed by its atmosphere, and she may help him make an adjustment in his school-work and play-time activities.

IV. Speech Procedures in a Child Guidance Clinic Through Speech

The theories in child guidance through speech should withstand practical criticism and should prove useful if child behavior is to be corrected through speech vehicles.

Pantomime may carry motor suggestion. One might explain the joy of classroom participation to a timid child, and might even educate her to the point of wanting to join with the class. However,

[3] Information concerning this test may be obtained through Dr. T. R. Garth, Psychological Laboratory, University of Denver, Denver, Colorado.

II. Assumption Underlying the Procedure of the Clinic

Morgan [1] has pointed out that the range of suggestibility lies between extreme gullibility and extreme negativism. He has also stated that unless life situations have distorted the child's behavior toward negativism, he is usually quite suggestible. Children may be motivated toward good behavior through suggestion and through education in how to solve their problems. The more subtle we make character education, the more successful it is likely to be.

Plays and pantomimes are particularly adaptable to the needs of a clinic as a vehicle for conveying suggestion, because they are the child's natural mode of expression. Piaget [2] points out that the child's world is a land of play and make-believe, and that if we would reach him, we must go to him in his world, for he cannot come to us in our world, since he does not understand it. A clinic may utilize dramatic training as the vehicle through which one may reach children and teach them attitudes that are socially desirable, for through little plays, sketches, readings, and other types of speech training, suggestions of better behavior may be conveyed to them without their being aware of the training.

Motor re-education, as in pantomime, is of value in a clinic, because correction involves changes in the child's motor activity as well as his strictly mental activity. The muscles and the nerves of the body make responses to the child's experiences, and if he fears something, dislikes someone, or does not anticipate with pleasure some situation, he will turn from that activity; in such a case, the motor responses must be reconditioned even more necessarily than the mental change of attitude. It is therefore assumed that pantomime, as a form of motor re-education, is of value in a clinic, because through it suggestions of good behavior may be administered in a very short time. In addition, the child may be taught motor coordination and grace, both requisite factors in personality adjustment and pleasing behavior.

III. Diagnostic Procedures of the Child Guidance Clinic Through Speech

A case history of the child's health record is obtained before any corrective work is begun in the clinic. Many diseases leave perma-

[1] J. J. B. Morgan, *Child Psychology* (Macmillan, 1931).

[2] Jean Piaget, *Judgment and Reasoning in the Child* (London: Harcourt, Brace, 1928).

nent effects upon the child's behavior habits, and a nervous, sickly child does not respond to correction as does a healthy one.

After the case history is obtained, an intelligence test is administered if possible. It has been the experience of this clinic that children with IQ's above normal react more quickly to behavior correction than those of normal or below normal intelligence. One should not expect the border-line child to respond as readily as the child of higher mentality, because the former cannot see the reasoning in a situation. Behavior guidance should be more subtle for children of high intelligence than for children of lower IQ. Children of lower mentality are helped more by specific direction in healthy behavior.

The Baxter Child Personality Test [3] has been used in the Clinic in Denver, and its standardization shows a high reliability and validity. This instrument tests the child's responses to concrete life situations in the home, in the school, and during playtime. The technique in administering the test is similar to the methods used in giving the Stanford Revision of the Binet-Simon Test for IQ. It is never sufficient to know that a child is selfish, timid, or domineering; the greater value lies in the knowledge of why the child behaves so. The Baxter Test is designed for diagnostic purposes.

The implications of the test on the home situation are very pertinent. Home co-operation facilitates behavior correction, but if the parents refuse to help, or if they are indifferent, there is much that the clinician or instructor may do without parental co-operation. She may help the child to attain a more objective view of his home, she may help him to be less emotionally disturbed by its atmosphere, and she may help him make an adjustment in his school-work and play-time activities.

IV. Speech Procedures in a Child Guidance Clinic Through Speech

The theories in child guidance through speech should withstand practical criticism and should prove useful if child behavior is to be corrected through speech vehicles.

Pantomime may carry motor suggestion. One might explain the joy of classroom participation to a timid child, and might even educate her to the point of wanting to join with the class. However,

[3] Information concerning this test may be obtained through Dr. T. R. Garth, Psychological Laboratory, University of Denver, Denver, Colorado.

the motor activity of the child's body does not always respond to mental stimulation, especially if that motor activity has been inhibited earlier in his life. The better procedure would be to suggest the joy of sharing in the classroom activities through plays, sketches, and readings, and then have him act out the pantomime situations himself. A dishonest boy might act out a situation in which he tells the truth; a boisterous little girl might pantomime a quiet, dignified character.

If a child is found to be aggressive and cruel, he may enact several pantomimes within a short time: the boy who feeds hungry birds in the winter-time, the boy who helps another child in distress, and the boy who bathes the foot of a hurt animal.

There are many little exercises that teach rhythmic movement and develop poise and grace. The awkward, clumsy girl may become the dainty fairy who tiptoes across the room. The boy who slumps in posture may become the courageous soldier home on leave who meets his mother's guests; and the timid child who stumbles from self-consciousness may enact the part of the happy child skipping from flower to flower. Thus the child whose rhythm of movement is broken should enact pantomimes to help him acquire more co-ordinated activity.

It is not exceedingly difficult to adapt the interpretation of pictures from the clinic to the school-room. Suitable pictures for this purpose are those used in the Binet test materials, or other activity pictures in which there is a story that is mentally healthful for the child. They are abundant in children's magazines.

Creative story-telling may also be adapted to school-room use. The untidy girl may be assigned to tell a story of a clean, particular child. Of course, there will be no discussion to the effect that J— will tell the story of a clean girl because she is untidy in her work. That type of assignment would ruin the purpose of the training even before the work was begun. It is quite probable that the untidy girl will be clean when she appears before the class to tell the story of an immaculate child.

Group pantomimes are usually a delight to children. The instructor may assign three types of corrective personalities to three members of the class, and ask them to work out a group pantomime that is mentally healthful for the next day. She will, naturally, assign the types of characters that she would prefer they enact.

Creative pantomimes become a part of the technique of training after the children have progressed into the work. The theme may be

suggested by the teacher, but the children should create the story. The instructor may assign the type of character or emotion and allow the child to proceed. Children usually enact the needs or lacks in their own lives.

In plays, the impudent little girl is occasionally given a sarcastic part. She learns how much better she feels and how much more everyone likes her when she says agreeable things.

Every cause of misbehavior and every characteristic in child behavior may be considered a case of its own. Therefore, in changing and correcting attitudes, one must consider each trait separately. The treatment should follow the diagnosis. Some of the causes of child personality aberrations and some suggestions for their guidance may be of help to teachers and instructors.

V. Guidance Principles Supplementary to Speech Procedures

Friendliness. Unfriendliness is characterized by unsocial acts, not by antisocial behavior. Every child is at heart a social creature, and unless some experience has warped his views of other children, he likes their company. The Baxter Child Personality Manual gives some of the outstanding causes for unfriendliness: (1) inferiority, caused by lack of companionship, or association with aggressive children, or over-solicitude of parents; (2) social insecurity, as a carry-over from insecurity in the home and caused by parental partiality and fear of parents; and (3) fear of ridicule by other children because of physical defects, small stature, or teasing.

Now the correction in the home must be based upon the difficulty involved. Changing a child's attitudes toward his playmates is a part of the work of a clinic. If there is parental partiality in the home, or fear of parents, that situation should be discussed tactfully with the parents and correction should be made. The question immediately arises: Are parents interested in changing the conditions of their homes? The answer may be that, if the clinician is tactful, diplomatic, and sincere, he can unassumingly point out the conditions to the parents and show them the wisdom of certain courses for better control.

The most important attitude to develop in the unfriendly child is that other children do like him and do want him to play with them.

It is unwise to cast the timid boy or girl in a prominent part in a play at first, because he has not yet developed to the place where he can wisely integrate this responsibility into his life. The first attitude to develop in the child's mind is self-confidence. If a child is of su-

perior intelligence and shows great creative power in any field, companions of his ability and talent should be found.

Co-operativeness. The child who does not learn to co-operate in his home, who does not learn to give others the right of decision, has a difficult time when he begins his social contacts. There are a number of causes of lack of co-operativeness: (1) over-indulgence, (2) lack of give-and-take in the home, (3) desire for attention, and (4) too stern discipline by parents.

Threats and denunciations are certainly amiss in developing co-operativeness, for the first aim should be to stimulate the child to *want* to do the desired thing. Pantomimes, interpretative selections, and plays should carry the mental and motor suggestions of the joy of doing the desired thing. If a boy in school is stubborn about being neat in his work, it is very unwise to shame him by comparing his papers with neater ones before the class. A much more diplomatic and scholarly thing would be to stimulate him subtly to co-operate in bringing the class level higher. It is easy, and has proved successful, for the teacher during play rehearsals, or at any time set aside for clinical work, to attribute to children the very traits that they should develop. Selections and plays wherein the stubborn pupil learns the joy of blending his wishes with those of the group are much more advisable than criticism and scolding.

Cheerfulness. It is easy to be cheerful when everything is going smoothly, but our question is: What does the child do when things are not pleasant? Does he pout when corrected? What does he do in adversity? There are a number of outstanding causes of sullenness: (1) over-solicitude, over-indulgence, and over-protection; (2) jealousy, or some deep-seated unhappiness such as insecurity in home or school; and (3) fear of punishment.

Great care must be taken in correcting these attitudes, and there must be an accurate diagnosis of the difficulty, for correction should never be the same for the over-indulged child and the jealous child. Needless to say, the home correction of faulty home conditions should be made if possible. Through the suggestions in pantomimes, interpretative selections, and plays, the over-indulged child should be taught other children's viewpoints; he should be taught to share in playing, and he should learn self-control. He should be ascribed the traits he does not possess in all therapeutic training. The jealous child should gain a sense of security in the situation which is unpleasant to him. Such a pupil should be made a part of the group in

which he feels inferior, and should then be cast directly in his own life situations.

Sarcasm. Sarcasm is compensatory behavior. That is, it is usually the result of a feeling of inferiority or a desire to "get even." One might call it impudence in some situations. At any rate, it is indicative of an inability to solve a particular problem. We are concerned with removing the inferiority rather than correcting the sarcasm. There are some children who are sarcastic because they lack respect, but there are many more who are trying to compensate for unhappy situations. Plays, sketches, and pantomimes should attribute to him the traits of consideration and courtesy, and other positive characteristics. The sarcastic child should play the rôle of the courteous child, helping others, and teaching other children to be courteous.

Boisterousness. There are two types of boisterous children: the aggressive, domineering child and the child who has too much energy with insufficient outlet for it. There are many causes for boisterousness: (1) lack of parental control in utilizing child energy; (2) too close watch on the child's activities, so that when he gets away from home or school he crowds all energy into exertion; (3) desire to get attention; and (4) too much physical emphasis in the home.

The type of dramatic work for each of the above-named causes would necessarily be different. The clinic affords opportunities for utilizing the energy of boisterous children who do not know what to do with themselves. Boisterous children make excellent leaders if taught to be dependable. All training of boys of this type should be toward manliness and courtesy. They are usually quite willing to accept suggestions of better behavior because they are not negativistic.

The child who has had too much discipline and no chance to work off his energy needs to be guided in the same way, only the suggestions must be more forceful.

When boisterousness is a means of getting attention, it is usually because of lack of affection in the home. There is the danger of exhibitionism and greater egocentrism if the pupil is given leadership too rapidly. He should be made to *earn* his honors. Suggestions should imply that one has to earn what he gets, that only the thing of value is to be counted, and that integrity of purpose is to be commended.

The effect of the occupation of the father upon the children is

interesting. There are children in the group whose fathers are policemen, prize-fighters, and ball-players. The children of some of the occupational groups are of the opinion that "might means right." Now this data is not given from a predictive standpoint, and it is not conclusive; but it is authentic in that it does show a trend. Boys who have such physical outlooks on life need suggestions toward more refinement, manliness, and consideration in their plays and pantomimes. Girls of this type need to be cast in the rôles of daintiness, refinement, and culture.

Tidiness. The development of order and tidiness is a result of habit formation. If the home does not provide the child with places for his toys and clothes, if the parents themselves are untidy, if appreciation of possessions is not stimulated, then the younger members of a family are not likely to be tidy in caring either for themselves or for what they own. Suggestions for personal care and tidiness may be conveyed through plays and selections, and pantomimes of children enacting activity of personal care and tidiness are simple to do.

Dependability. Forty percent of the children tested by the Baxter Test said that they disliked helping with the tasks in their home. Children need responsibility, but the home is not providing adequate opportunity for children to develop dependability. The sixty percent of the children who were dependable in home, school, or general task situations have gained this quality because of one of the following reasons: (1) assistance needed in home tasks, (2) assistance needed in parental occupation, as in store-keeping, etc., and (3) unity of home training on a share-alike basis.

Divided homes cause more failures in development of this trait than any other cause. Children from such homes should, in their plays and pantomimes, have rôles of helping others: elderly ladies crossing the street, school traffic policeman, the group in some activity, a sick mother, a baby sister, the paper monitor, etc.

Courage. We have not even begun to realize the enormity of fear, or to understand its transfer power. The recessive boy or girl may have little courage and may be overcome by fear situations. The guidance through dramatic training will depend in substance upon what effect the fear is having on the pupil. Fears of the dark, of basements, strange men, picture-shows, newspaper articles, etc., are usually the results of one focal fear. H—, who came for help at the clinic, was afraid of strange men, of her own dark room, of being left alone, of larger children, of picture-shows, and of other things.

The basis of the whole network of fear was social insecurity. She had no friends of her own age, and the older children in the neighborhood were unkind to her. She disliked picture-shows because she was afraid of sadness in the story. Her fear of strange people was due to the teasing of the other children. Now there is no doubt that her own behavior was partly the cause of the reactions of the other children, but in either case, guidance must consider the basic root of fear.

These children should always find within the plays how to overcome their fears. They should be afforded the opportunity to live directly through their own problems. They should receive mental and motor suggestions with which to live through similar experiences. There are some outstanding causes of fear: (1) fear used as a weapon of discipline, (2) experience of fear in which it is not overcome, (3) social or home insecurity, and (4) ill health, in which the child dwells upon situations that frighten him.

There are many other behavior traits that might be discussed; for example, shyness, obedience, courtesy, constructiveness, kindness, leadership, and honesty. Remedial work involves the same principles as those that have been discussed. There should be an accurate diagnosis of the difficulty and the child should learn methods of solving his problems through speech vehicles. He may be placed in a rôle that will show him how to solve his problem, or he may be attributed the traits that are lacking in his own behavior.

There are dangers in all therapeutic training, but they have been discussed as the topics have been considered. To review them, one should remember that:

1. Great care must be taken in selection of clinicians. Any maladjusted clinician, one who is not objective in her own thinking, might cause great harm while working in a clinic. None of us are truly objective, but a self-centered, maladjusted clinician has no place in a clinic.

2. No training should ever be undertaken in a clinic until a thorough diagnosis is made of the child's physical, mental, and behavior histories.

3. No child should be harangued about his behavior problems, particularly before other children.

4. Tact and diplomacy should be assets of each instructor, so that contacts with the home remain pleasant. If possible, the home should co-operate.

5. In making a diagnosis, the examiner should beware of trying to fit the child's case into a pattern that she has formerly conceived or met. Every case history is an example of its own, and no two children ever react in the same ways. Patterns of behavior diagnosis should be avoided.

It is hoped that the Child Guidance Clinic through Speech is a step in the direction of solving some of the many problems of child behavior. All of us hope that the day is not far distant when there will be a clinic in every school. We hope that guiding children to become dependable, honest, ambitious, and considerate will become the *core* of education.

WEBSTER'S PERORATION IN THE DARTMOUTH COLLEGE CASE

JOHN W. BLACK
Kenyon College

WEBSTER'S biographers and students of American oratory have been confused by the thin thread of evidence concerning the supposed peroration to Webster's plea in the Dartmouth College case before the United States Supreme Court.[1] All that is generally known is that Rufus Choate in his eulogy of Webster at Dartmouth College, 1853, read a copy of the peroration purported to have been preserved by Professor Chauncey A. Goodrich, an auditor at the trial in 1818. That peroration has since become a stable piece of American oratory and an intrinsic part of Webster's biographies. Critics who doubt its authenticity point to the improbability of Goodrich's remembering the exact words of the peroration and to the possibility that Choate altered the report.[2] Some documents have come to light recently which affect these points of view.

It should be remembered that Choate used few notes while delivering his eulogy on Webster, but stepped back to a table for his papers when he read the description attributed to Goodrich.[3] That this was probably not merely an actor's stroke is revealed in the manuscript as prepared for the amanuensis who edited the pamphlet edition of the speech.[4] The manuscript, a compilation of pages of Choate's

[1] The Trustees of Dartmouth College against William H. Woodward.

[2] *Cf.* A. J. Beveridge, *The Life of John Marshall,* Houghton Mifflin, 1919; C. M. Fuess, *Daniel Webster,* Little, Brown, 1930.

[3] C. Caverno, *Reminiscences of the Eulogy of Rufus Choate on Webster,* Sherman, French, 1914.

[4] Boston (Mass.) Public Library.

scarcely legible writing, and of edited newspaper accounts of the speech, contains the letter which Goodrich wrote to Choate and portions of a second letter amending the first. He first wrote,

Yale College
November 25, 1852

My dear Sir,

I have taken the liberty to send you, through our friend Henry Hill, a book which I have recently published, designed to aid the young men of our country in the study of eloquence.[5] A glance at the preface will show you my plan, and will explain my reason for confining the present volume to the orators of Great Britain. The copy sent you is the one originally intended as a tribute of respect and veneration for the greatest of our New England orators. I have felt that it ought to pass into your hands; especially as the City of Boston and Dartmouth College have called upon you to speak of his greatness and his virtues.

There is a passage in one of the early pages of this work (the 21st) which reminds me of what I heard from Mr. Webster, when I first listened to his eloquence. It is Lord Belhaven's application of the words *"Et tu quoque, mi fili,"* to Scotland, when "attending the fatal blow and breathing—her last," (as he considered it) under the compulsion which drove her into a legislative union with England. Mr. Webster applied them still more beautifully at the close of his argument at Washington in the case of Dartmouth College. In publishing his speech, however, he left out the entire peroration, giving in its place an extract from Cicero, which he probably regarded as a more appropriate conclusion of a strictly legal argument.[6] No hand but his could ever reproduce it; but I am sure you will be interested in a slight sketch of the circumstances as they will always live in my memory.

Before going to Washington (which I did chiefly for the sake of hearing Mr. Webster) I was told that in arguing the case at Exeter, N.H., he had "left the whole court room in tears" at the conclusion of his speech. This, I confess, struck me unpleasantly—any attempt at pathos on a purely legal question like this, seemed hardly in good taste. On my way to Washington I made the acquaintance of Mr. Webster; we were together for some days in Philadelphia at the house of a common friend; and as the "College Question" was one of deep interest to literary men, we conversed often and largely on the subject. As he dwelt upon the leading points of the case in terms so calm, simple, and precise, I said to myself, more than once, in reference to the story I had heard, "whatever may have seemed appropriate in defending the College at *home*, and on her own ground, there will be no appeal to the feelings of Judge Marshall and his associates at Washington." The Supreme Court of the United States held its session that winter in a mean apartment of moderate size, the Capitol not having been rebuilt after its destruction in 1814. The audience, when the case came on, was therefore small, consisting chiefly of legal men, the elite of the profession throughout the country. Mr. Webster entered upon his argument in the calm

[5] C. A. Goodrich, *Select British Eloquence*, Harper, 1852.

[6] In attempting to reconstruct the atmosphere of the trial, writers frequently have conjectured as regards the effect of the Latin sentences on the audience, and on Webster's delivery of the sentences.

tone of easy and dignified conversation. His matter was so completely at his command that he scarcely looked at his brief, but went on for more than four hours with a statement so luminous and a chain of reasoning so easy to be understood and yet approaching so nearly to absolute demonstration, that he seemed to carry with him every man of his audience without the slightest effort or weariness on either side. It was hardly eloquence in the strict sense of the term, it was pure reason. Now and then for a sentence, his eye flashed and his voice swelled into a bolder note as he uttered some emphatic thought, but he instantly fell back into the tone of earnest conversation which ran throughout the great body of the speech. A single circumstance will show you the clearness and absorbing power of his argument. Judge Story, as I remarked at the opening of the case, prepared himself pen in hand, to take copious minutes. Hour after hour I saw him fixed in the same attitude but *not a note on his paper.* The argument closed and *he had not taken a single note.* To one who spoke to him afterwards of the fact with surprise, he remarked, "Everything was so clear, so easy to remember, that not a note seemed necessary; in fact, I thought nothing about my notes."

The argument ended: Mr. Webster stood for some moments silent before the court, while every eye was fixed intently upon him. At length bowing to Judge Marshall he said, "This, Sir, is my case! It is the case not merely of that humble institution, it is the case of every college in our land! It is more! It is the case of every eleemosynary institution throughout our country—of all those great charities founded by the piety of our ancestors to alleviate human misery, and scatter blessings along the pathway of life! It is more! It is, in some sense, the case of every man among us who has property of which he may be stripped, for the question is simply this, 'Shall our State Legislatures be allowed to take *that which is not their own,* to turn it from its original use and apply it to such ends and purposes as they in their discretion shall see fit!'[7]

[7] Commentators concur that there were political implications attending the Dartmouth College Case, the most extensive treatment of these probably being given by Beveridge, *op. cit.* Fuess, *op. cit.*, makes a plausible distinction when he denies that the nonsense of which Webster spoke in his plea was political maneuvering and attributes it to the peroration which Webster did not include in the report. He does not deny, however, the fundamental political aspects of the case. A contemporary view of the political implications is expressed in an unpublished letter to Mills Olcutt, trustee of Dartmouth College. (New Hampshire Historical Society. Mills Olcutt collection.)

Chesterfield, April 1, 1818

Dear Sir

It seems the college case is yet undecided. It does not appear so clear a case for the university as its friends have pretended. Some of the judges at Washington it appears differ in opinion from our S. court. On the whole I think the friends of the college have no reason to be disheartened. The case will at least receive a thorough examination, and I have always thought if the whole case came fairly before the federal court the decision would be for the college. I have no doubt such would have been the decision in *old fashioned federal times.* How far politics may operate or how far the old opinions upon the subject of

"Sir, you may destroy this little institution; it is weak, it is in your hands! I know it is one of the lesser lights in the literary horizon of our country. You may put it out! But if you do so, you must carry through your work! You must extinguish, one after another, all those great lights of science which for more than a century have thrown their radiance over our land! It is, Sir, as I have said, a small college. And yet *there are those who* love it!" There the feelings which he had thus far succeeded in keeping down, broke forth. His lips quivered; his firm cheeks trembled with emotion; his eyes were filled with tears; his voice choked; and he seemed struggling to the utmost, simply to gain that mastery over himself which might save him from an unmanly burst of feeling. I will not attempt to give the few broken words of tenderness in which he went on to speak of his attachment to the college. What he said seemed to be mingled throughout with the recollections of father, mother, brother, and all the trials and preventions through which he had made his way into life. Everyone saw that it was wholly unpremeditated—a pressure on his heart which sought relief in words and tears. Recovering himself, after a few moments, and turning to Judge Marshall, he said, "Sir, I know not how others may feel (glancing at the opponents of the college before him), but for myself, when I see my *Alma Mater* surrounded, like Caesar in the senate house, by those who were reiterating stab upon stab, I would not for this right hand have her say to me, '*Et tu quoque, mi fili!*'"

He sat down, and I need not tell you that the whole court room at Washington, as at Exeter, was in tears. It has always struck me, in looking back to that scene, that the pathetic depends not so much on the words themselves, as upon the estimate we put on him who utters them. No one was ashamed to weep when he saw before him the man who had made such an argument, melted into the tenderness of a child.

I am with much respect
Very truly yours
CHANNCEY A. GOODRICH

Hon Rufus Choate
Boston, Massachusetts

Only the signature and Choate's address appear in Goodrich's handwriting. There follow, however, portions of a mutilated second letter from Goodrich, these entirely in his own handwriting.

Two alternatives appear plausible as regards the second letter. First, when Choate decided to use the Goodrich material in the eulogy (as Goodrich may have hoped that he would, else why the detailed first letter?), he returned the letter to Goodrich requesting permission to use it with any changes which Goodrich might wish to

charters has changed I can't say. I venture to predict, though I have never heard, that the opinion of Marshall is in favor of the college.

I am sir very respectf—
Yr. Obt. Sevt.
PRINS HANDERSON

make. Second, after the delivery of the speech and prior to its publication, Choate returned the letter for editing. Inasmuch as the revisions were slight, there is considerable likelihood that even if Choate had them when he made the speech, he read from the original letter—this, because of the cumbersomeness of reading from both letters. Moreover, the letters in the manuscript are indications that Choate made no copy of them but used the originals. The available portions of the second letter follow the form illustrated in the following excerpt.

1. Alteration. After the words, "The power of his argument" substitute as follows. I observed that Judge Story, at the opening of the case had prepared himself pen in hand, as if to take copious minutes. Hour after hour I saw him fixed in the same attitude, but so far as I could perceive with not a note on his paper—the argument closed and I could not discover that he *had taken a single note*. Others around me remarked the same thing; & it was among the (illegible word. Choate inserted *reports*) of Washington, that a friend spoke to him of the fact with surprise, when the judge remarked, "Everything was so clear & easy to remember, that not a note seemed necessary; in fact, I thought little or nothing about my notes!"

Perhaps the most important note in the entire revisions and one which is pertinent to the authenticity of the speech is the following portion.

(I give the substance & in many instances the exact words. The whole occupied not more than 6 or 8 minutes.) "Sir, this is my case"—Now go on as in the original manuscript.

Plainly, then, the peroration is not the verbatim report of what Webster said. At the same time it appears to be sufficiently accurate to justify its retention as a significant part of Webster's oratory.

Choate's part in transferring the peroration from Goodrich to the public appears to have been especially accurate. Obviously he took pains to give Goodrich an opportunity to verify his own report. Moreover, he incorporated almost all of the Goodrich material, original or revised, verbatim. With parts of the second letter lost, there remains the possibility that Choate ignored some of the alterations. For example, what appears to have been the final alteration, at least one on the last page of the second letter, was torn by Choate along a line which began with the word *feeling*. This word and subsequent material were not incorporated in the speech. Apparently on his own part Choate changed the words *what he said* to *the whole*, ignored the altered order of the words *sir this* in the dramatic sentence which announced the peroration, and added the translation of

et tu quoque, mi fili. Aside from these minor changes, Choate preserved the Goodrich report.

Further information on Goodrich's attendance at the trial can be conjectured from the letter. Apparently he attended, as he suggested, because of a personal interest in Webster's oratory and not, as Fuess intimates, as Yale's representative to a trial of special significance to the school.[8] Very slight evidence confirms this. Goodrich's interest in the phrase *et tu quoque, mi fili* evinced in his footnote in *Select British Eloquence* and in the early portion of the letter would make it seem probable that had he heard other uses of the same phrase or its perversion *et tu, Brute* in the same trial he would have made some mention of it.[9] The phrase was used two days later by Wirt in concluding the arguments of the opposition.[10] It seems likely that if Goodrich had represented Yale at the trial, he would have remained throughout the trial, and, in turn, if he had remained, he would have made some mention of Wirt's subsequent use of the phrase in which he displayed so much interest.

Additional speculations on the Webster peroration are aroused by Parker's report of a conversation with Choate on December 20, 1852, shortly after the arrival of the book and letter from Goodrich.[11]

[8] Fuess, *op. cit.*

[9] Goodrich, *op. cit.*

[10] Miss Mildred Saunders, archivist of the Baker Memorial Library, Dartmouth College, called to the writer's attention a letter from Sala Hale, trustee of the short-lived Dartmouth University, to President Allen.

Washington, Mar. 12, 1818

Dear Sir,

About two hours ago Mr. Wirt closed a very able argument in our cause. His peroration was eloquent. The ghost of Wheelock was introduced exclaiming to Webster, "Et Tu Brute!" Mr. Bell was present during a part of it and speaks of it highly. A great majority here take an interest for us and have decided in our favor. You must however, I think, have patience for another year. The court rises in three days, and unless it shall appear to them a very clear case it will be continued. I see no indication of a wish here on the part of the old trustees to delay a decision.

Mr. Hopkinson is now speaking and may not close today. He is laboring hard.

The point insisted upon here was not taken at Exeter. We have therefore been taken by surprise which has thrown great labor upon Mr. Wirt and myself.

With much respect

S. HALE

[11] E. G. Parker, *Reminiscences of Rufus Choate*, Mason Brothers, 1860.

He (Wirt) told me (Choate) once that he sat right behind Webster in the Dartmouth College Case, and he didn't hear anything of that pathetic peroration which Goodrich describes; at least he wasn't impressed with anything in particular about it.

The first reaction to this report is doubt concerning the veracity of the Goodrich report. Counteracting the doubt is the element of ensuing time and the fact that Wirt was counsel for the opposition. The most important implication is that Goodrich apparently made some report of the peroration prior to the death of Wirt, 1834. This would indicate that Goodrich's letter to Choate was not the unpremeditated reminiscence of a man of sixty-two of an event which occurred when he was twenty-seven, but was an edition of an earlier, undiscovered report. Moreover, Parker's quotation suggests that Choate held a reasonable doubt concerning the authenticity of the peroration and, further, supplies sufficient motives for his giving Goodrich an opportunity to alter the report before its being made public and for carefully attributing the authorship of the report to Goodrich.[12]

In conclusion, it is hoped that this paper supplies a link in the story of the Webster peroration and presents some reasonable suppositions concerning the circumstances attending its preservation. Chiefly, it exonerates Rufus Choate from any charge of tampering with the Goodrich report.

[12] That there may be some significance in Choate's care in attributing the Goodrich material to its author is implied in his treatment of an excerpt from another letter voluntarily sent to him. It was the letter describing the similarity between Webster and Scott. Choate refers to the author of the passage as *a learned friend*, and omits further identification. That the letter was voluntarily sent to him is indicated by the few lines on the reverse side of the original copy of the Scott-Webster material, "I have recently read your remarks upon the late Mr. Webster commemorating his great qualities."

THE AIM AND EDUCATIONAL CONTENT OF ORAL READING

ANGELO M. PELEGRINI
University of Washington

TO ONE unacquainted with the diversity of opinion among speech teachers on what constitutes *oral reading*, it may seem a bit gratuitous to begin this discussion with a definition of so simple a phrase. The definition, I assure you, is of fundamental importance. Not many years ago, Helene Wilson, of the State Normal School, Oshkosh, Wisconsin, made a statistical survey[1] of courses in interpretative reading in one hundred twenty colleges and universities. The conclusion of her well-documented survey she states in a simple sentence: . . . "Courses in interpretative reading have a great diversity of title, aim, and content." She further discovered that

> Interpretation is taught in many courses other than those designated Interpretative Reading—especially in courses labeled Literature, Public Speaking, Voice, Oratory, Dramatics, and very often in beginning speech courses. . . . Work in interpretation of the page is offered under the guise of Voice, Elementary Elocution, Literary Analysis, Interpretative Literature, Oral Expression, Oral Study of Literature, Imagination and the Dramatic Instinct, Evolution of Expression, and Psychological Development of Expression.

It seems safe to conclude, therefore, from Miss Wilson's survey, that if a hundred teachers of speech in representative universities and colleges were asked to state their conception of the content of a course in oral reading, we should get answers varying from reading of Shakespearean drama to reading of hymn and Bible.

What, then, do we mean *specifically* when we say "oral reading"? In this brief discussion I shall attempt to answer this question; and I shall answer it in terms of the aims and objectives of a course labeled Oral Reading. I shall then venture an appraisal of the educational content of a course in oral reading. In doing this I shall propose an answer to the question: What *unique* contribution to the total education of an individual may be expected of a course in oral reading? In all that I have to say I am concerned exclusively with a basic, first course in oral reading.

What, then, is oral reading? Oral reading is the art of reading aloud to one or more listeners in such a manner that the maximum

[1] QUARTERLY JOURNAL OF SPEECH EDUCATION (Nov. 1926).

communication of the total content of a piece of literature is effected. As such, it involves a faculty which all normal, literate human beings possess latently, but which must be cultivated in each individual before one may be said to be an effective oral reader. Is it then not correct to say that the reading of Shakespeare, of Browning, or of hymn and Scripture is oral reading? No. It is no more correct thus to describe oral reading than it is to describe eating as eating frogs. Eating frogs—which, Heaven knows, has its own gastronomic justification!—is a particularized application of eating; it involves eating, but is itself not descriptive of that particular function of the human body. Likewise, the oral reading of Browning is a particularized application of the faculty to read orally; it involves that faculty, but is itself not descriptive of it.

It is this confusion of principle and application, oral reading as an act which involves the use of a trained faculty and the use of that faculty in reading orally certain forms of literature, which accounts for the diversity of opinion among speech teachers on what constitutes oral reading. I do not mean to imply, of course, that separate courses in the oral reading of lyric poetry, of dramatic poetry, or dramatic monologue, etc., may not be legitimately included in a speech curriculum. I am saying, simply, that such courses *bend* the faculty of oral reading in a special direction by adding to it whatever element is needed in reading a particular form of literature; and that the *general development* of that faculty is the special aim of the basic course in oral reading.

And what is this faculty of oral reading about which we have spoken so generally? What does it involve? How does it differ from the faculty of intelligent, silent reading? The problem is best approached through a consideration of reading in general. All reading, silent and oral, when it is intelligent and critical, is creative. As Percy Lubbock says in the introduction to his fine book, *The Craft of Fiction:*

> The reader of a novel—by which I mean the critical reader—is himself a novelist; he is the maker of a book which may or may not please his taste when it is finished, but of a book for which he must take his own share of the responsibility. The author does his part, but he cannot transfer his book like a bubble into the brain of the critic; he cannot make sure that the critic will possess his work. The reader must therefore become, for his part, a novelist, never permitting himself to suppose that the creation of the book is solely the affair of the author. The difference between them is immense, of course, and so much so that a critic is always inclined to extend and intensify it. The opposition that he conceives between the creative and the critical task is a very real

one; but in modestly belittling his own side of the business he is apt to forget an essential portion of it. The writer of the novel works in a manner that would be utterly impossible to the critic, no doubt, and with a liberty and with a range that would disconcert him entirely. But in one quarter their work coincides; both of them make the novel.

"Both of them make the novel" in the sense that the work of each is indispensable to the other. This is no pedagogical refinement. Any piece of literature begins really to live the moment it passes through the imagination of the intelligent, critical reader. It is at that moment, at the point in time where author and reader meet, that a literary work becomes a living work of art. And the particular contribution of the reader is the reconstruction of the world of fact and fancy which the author has indicated. It is in this sense that all critical, intelligent reading is creative.

Now if the reading be oral, a threefold relationship complicates the task of recreating a piece of literature. It is the author-to-reader-to listener relationship. (I am assuming, of course, that the reading is done—as it most often is—for some one.) When something is read aloud—and read effectively—what is really happening is that many are reading through one; and when many are reading through one, the reader must add to the faculty of re-creating for himself, the further faculty of recreating for others. It is not enough that the reader himself feels and understands what he is reading; he must have the capacity to make others feel and understand it. The two faculties are not identical. It is possible to grasp in its totality a piece of literature and at the same time be utterly incapable of communicating it to others.

It is the broad, general development of this faculty—the faculty to make others feel and understand the *worth* of a piece of literature —which is the special aim of a basic course in oral reading. Sound training in such a course must rest upon three fundamentals. The first of these is training in receiving full, vital impressions from the printed page, a particular kind of impressions: those which bear within themselves the energy needed for their own articulation. This involves both intellect and imagination. The second is training in securing full and unimpeded vocal and bodily responsiveness to impressions. This involves, among other things, a breaking down of those inhibitions which have fastened themselves upon a personality unaccustomed to oral expression. The third is training in adequate motivation for oral communication. This involves cultivating a keen awareness of the reader-listener relationship. It is the anxiety to

communicate, to share one's experience of the literature read, that should always motivate effective reading.

Such, in broad outline, is the nature of the basic course in oral reading. What is its educational content? What unique contribution does it make to the total education of the individual? In answering this question, teachers of speech have at times been a bit too enthusiastic. There has been a tendency to define the value of oral reading in terms of what is really the broad objective of the total study of literature: a deepening of one's awareness of the ultimate worth and meaning of literature. To be sure, the oral reading of literature contributes its share to the realization of this general aim; but in many ways creative oral reading and creative silent reading are identical. Both methods of reading illumine the fascination of literature, develop habits of accuracy in observation, increase, in the only way possible, one's intimacy with one's language, cultivate one's sensitiveness to literary values. But if we isolate the unique educational content of oral reading what do we find?

We find, first of all, that only in oral reading—as I have defined it—does the individual cultivate his capacity orally to communicate the full meaning of literature to others. This capacity, educationally speaking, is its own justification. I do not mean that one who does not possess it is not an educated man; I mean simply that one who does is the better for it. The capacity to take a printed page, be it prose, poetry or drama, and to create from it lively, incisive, imagery for the enjoyment of the listener needs no special pleading. It is the first, obvious, educational justification for oral reading well taught.

The second may not be so obvious; but it is equally important. It has to do with the nature of language. No class in oral reading can afford to omit a reference to certain chapters in Lascelles Abercrombie's fine book, *The Theory of Poetry*. I quote from the chapter on The Sound of Words:

> . . . But we are sometimes apt to forget, even in this connexion, that language has, and has had for many centuries, a double life, in poetry as elsewhere. Language lives as the spoken word, and it lives also as the written (or printed) word. The spoken word cannot be anything else than sound accepted as the symbol of an idea; and the written word was originally the symbol of this spoken sound: that is to say, the symbol of the symbol of an idea. But the written word can be, and has long since in part become, something else than the symbol of a symbol; it can be a symbol in its own right. For the human mind will always short-circuit a process when it can. As soon as the habit of reading to oneself was established, the second-hand symbolism of the written word was short-circuited; and the written word became itself the symbol of the idea, without having to pass through the symbolism of sound. Printing has fixed this

short-circuit in our civilized mentality so deeply that many of us are scarcely aware of it.

The plain conclusion of this understanding of the nature and evolution of language is that "really to know a poem requires a double experience of it: it requires that it should be read aloud, and that it should be read to oneself." Through the great diffusion of printing, we have become so accustomed to printed language that "we can get, in printed language, in the appeal through the eye, a more instant and more certain apprehension of fine association of ideas, of delicate shades of significance, than you can ever get through the ear." Therefore, whether it be great poetry or poetic prose, literature must be read silently to oneself for its logical content, for its grammatical meaning, and it must be read aloud for the value which is inherent in its sound. Only through this dual experience of it can great literature be known; and such complete experience of literature is not possible without the aid of sound training in oral reading.

We find, lastly, if we isolate the unique educational content of oral reading, that it aids in refining the spoken language of the individual. Whereas intelligent silent reading will enrich one's language, add to one's vocabulary, increase one's sensitiveness to literary values, broaden one's horizons of experience, it will not necessarily improve one's oral faculty. Silent reading, no matter how critical and intelligent, leaves one's vocal apparatus untouched. Such things as diction and inflection need cultivation through constant, full, clear, articulation of the language of literature. Systematic reading aloud of fine literature, pursued as a part of the English curriculum, from the elementary grades through the university, is the only training—so far as the school is concerned—which will enrich and refine the spoken language of the individual.

Such is the objective and educational content of a course in oral reading. If a course so obviously rich in educational possibilities has in the past received so little attention from those who formulate the curriculum, the reason may be, in part, that speech teachers, inadequately trained and themselves not fully aware of the possibilities of their craft, have taught the course rather badly. It is the special task of the enlightened teacher of tomorrow to redeem oral reading from the disrepute into which it has been flung by cheap, elocutionary methods; and to restore it to the dignified place on the curriculum of which it is certainly worthy.

CHANGE OF VOICE IN MALE ADOLESCENTS[1]

ELDON K. JEROME
Mooseheart Laboratory for Child Research

THAT change of voice is a normal phenomenon in the adolescent male, and that it occurs to a lesser degree in the adolescent female have long been recognized by the lay public as well as medical men, teachers of singing, and teachers of speech. A survey of the American medical and speech literature reveals that there is little known about change of voice beyond a general idea of the chronological ages at which this change occurs, that the change is variable in the amount of time it occupies, and that the pitch of the voice lowers during this period. That there is a connection between the change of voice and the development of normal sex characteristics in the male is so much an accepted idea that it has become legendary, but how close this connection is has never been definitely established. Occasionally there appear cases in which the normal change of voice does not occur.

The medical literature infrequently presents case histories of falsetto voices and their treatment. Reasons given for the failure of the voice to change vary from poor general health to the lack of realization on the part of the patient that he has an instrument capable of producing a normal adult voice.

The only reference regarding the specific time when change of voice occurs seems to be the one cited by Dr. J. S. Greene in which he quoted Paulson:

> Paulson found, when investigating changes in children's voices as modified by age during the period of mutation, that fifty percent of children's voices began to quaver at the age of thirteen, seventy percent at the age of fourteen, eighty percent at the age of fifteen.[2]

Dr. Greene did not give the source of his quotation and search has failed to reveal from whence it was taken.

Seth and Guthrie describe change of voice, in part, in the following terms:

> About the age of fourteen years in boys, and twelve years in girls, the voice undergoes remarkable changes. The larynx then grows rapidly, so that the

[1] The work was done under the supervision of Dr. Martin L. Reymert, Director of the Mooseheart Laboratory.

[2] J. S. Greene, "Falsetto Voice in Males with a Demonstration of Four Cured Cases," *Laryngology*, XXXI (1921), 33.

vocal cords become, in boys, 1 cm. longer, in girls 3 to 4 mm. longer, and the voice alters accordingly. In boys the lower limit falls a whole octave and the upper limit about a sixth. In girls, the lower limit falls one-third and the upper limit rises slightly. In girls the vocal change is usually earlier, independent of the first menstruation and more rapidly and smoothly completed than in boys. ... The change of voice may take from six to eighteen months to complete; in urban populations and in southern climates it develops earlier than in the country and in the North.[3]

On the whole, it seems that most of the knowledge concerning change of voice has accumulated from casual examinations of specific subjects, and that no controlled investigations have been made in the field.

Speech cannot be separated from the physical and physiological attributes of the human organism, and any study of development of voice must consequently be related to the human organism as a whole.

Change of voice may be technically described as a normal loss of control of voice, occupying an undetermined length of time in the pre-adolescent stage or during some period of adolescence. This loss of control is usually evidenced by instantaneous, unpredicted, and involuntary changes of pitch, the reasons for which are not readily apparent. Occasional concomitants of this loss of control of the voice are double resonance, restricted range of pitch, and the appearance of a tremolo.

In the present study, we endeavored to throw some light upon the possible relationship between change of voice and three possible criteria of age: chronological age, mental age, and skeletal age.

The subjects selected were normal children: normal in speech, general intelligence, auditory acuity, and health.[4] All subjects were alike in one respect; they obviously were in the period of "change of voice."

Questionnaires were sent out to all matrons, mothers, and teachers employed at Mooseheart asking that the names of the boys who in their judgment were undergoing change of voice be listed.

Those boys who were undergoing change of voice and who were of normal intelligence were given an individual auditory acuity examination. This examination was made on the Western Electric 4A Audiometer. In order to allow for possible local interferences in

[3] Seth and Guthrie, *Speech in Childhood Its Development and Disorders* (Oxford University Press, London, 1935), 200–201.

[4] A mental age which when divided by the subject's chronological age produced an I.Q. between the ranges of 90–110 classed the subject as being normal in general intelligence.

testing, it was decided in advance to accept as normal any subject who did not have a diminution of auditory acuity greater than three percent. Even this slight amount was found in only one subject, and only in the left ear; the right ear was normal.

The names of those children who were acceptable as subjects up to this point were sent to the Mooseheart Hospital so that their health status could be determined. If the subject had not received a thorough physical examination within the previous three months, he was given one by the resident physician. Those who were found to be physically normal were listed for further study, as were those whose physical defects (defective vision for instance) could have no possible bearing upon the change of voice. The group thus selected were then given the speech and music section of the examination.

The speech and music tests were not formally standardized; they were simple tasks set up by the writer so that the boy would have to use his voice in various ways in controlled situations. The following items were required: oral reading, swift attack and release of the tones middle C, D immediately above middle C, and E immediately above middle C; sustaining of the same tones; running an arpeggio; and the singing of scales. Any indications of loss of control were noted.

On the basis of this procedure, twelve boys were finally selected from some thirty-odd who started the routine of tests.

The subjects were measured for chronological age, mental age, and skeletal age. It was believed that the age measure which made the subjects most alike would be the one most closely connected with the common factor change of voice.

Naturally, the chronological ages were known. In order that the mental ages would be comparable to the chronological ages, it became necessary to compute mental growth from the last Terman-Binet examination. The computation of mental ages was necessary for only part of the group, and usually was a matter of only two or three months. One month of mental growth was allowed for every month of chronological increase. This method is now in use at the Mooseheart Laboratory for Child Research, and has been adjudged satisfactory for the estimating of mental ages, if the subjects are of normal intelligence. All chronological ages and mental ages were figured to March of 1936.

To determine the skeletal ages, X-rays of the epiphyses of the knee, wrist, and hand of each subject were taken.[5] An "epiphyses" is

[5] A general discussion of ossification of the epiphyses and the implications

defined by Dorland as "A piece of bone separated from a long bone in early life by cartilage, but later becoming a part of the larger bone."[6] The X-ray pictures were taken by the X-ray technician at the Mooseheart Hospital according to the method of Dr. T. Wingate Todd of Western Reserve University. The appraisals of skeletal ages from the X-ray pictures were made by Dr. Todd and Dr. C. C. Francis.[7] The X-rays were taken within one month, March 1936, and thus the skeletal ages were directly comparable to the chronological ages and the mental ages.

Tables I and II give the main results of the comparisons on the several age scales. Table I is self-explanatory. Table II groups these data according to certain statistical measures. The measures used are the range, the mid-score, the mean, the quartile points, the quartile deviation, and the standard deviation. Included in Table II are the correlations between the various measures of developmental ages using the rank difference method[8] and changing the p's into r's.[9]

The group shows the greatest disparity in development on the various measures of age when described by the range of the ages. The range of chronological age is sixty-two months; the range of skeletal age is thirty-six months. The skeletal age range is smaller than the chronological age range by twenty-six months, and smaller than the mental range by thirty months.

The mid-scores for chronological age, mental age, and skeletal age are 172 months, 154 months, and 172.5 months respectively. The mid-scores for the group on chronological age and skeletal age are within one month of each other, while the median for the mental age is one and one-half years lower.

The mean is higher than the median for mental age, but lower for skeletal age and lower for chronological age.

of the subject may be found in *The Report of the White House Conference on Child Health and Protection, Growth and Development of the Child*, Part II: Anatomy and Physiology (Century Co. N. Y., 1933), 46–55.

[6] Dorland. *American Illustrated Medical Dictionary* (1930), 428.

[7] The writer wishes to express his appreciation to Dr. Todd and Dr. Francis for their cooperation, and to Dr. Reymert for enlisting the services of Dr. Todd and Dr. Francis.

[8] $p = 1 - \frac{6SD^2}{N(N^2-1)}$ Chas. W. Odell, *Statistical Method in Education* (Appleton Century Co., N. Y., 1935), p. 226.

[9] Table XX, Garrett, Henry E. *Statistics in Psychology and Education* (Longman's Green & Co., N. Y., 1926), p. 192. By utilizing this table, a slight error is present due to matching the actual correlation coefficients with the nearest correlation coefficient listed in the table. The error, however, is very slight.

At the first quartile point, the ranking from high to low ages is skeletal age, 155.5 months; chronological age, 148.5 months; and mental age 142.5 months. At the third quartile point, the ranking changes: first place is taken by chronological age with 184 months, with an increase of 35.5 months; mental age at 178 months shows an increase of 35.5 months; skeletal age at 177.5 shows an increase of 22.0 months. The quartile deviations are as follows: for chronological age, 17.75; for mental age, 17.75; and for skeletal age 11.0. Standard deviation of the group on the basis of chronological age is 19.27 months, on the basis of mental age is 20.85, and on the basis of skeletal age is 13.46 months. While the facts stated in this paragraph are interesting, the smallness of the group under study prohibits them from being statistically significant.

Using the rank difference method of correlation and changing these to Pearson product-moment r's, we find chronological age and mental age correlate to the extent of $.88 \pm .046$, chronological age and skeletal age correlates with a coefficient of $.86 \pm .034$ and mental age and skeletal age have a correlation coefficient of $.72 \pm .095$.

The results of the statistical treatment, in general, show uniformity. As to the spread of the cases on the three measures used, the greatest was on the basis of chronological age, with the exception of standard deviation and a tie on the quartile deviation of chronological age and mental age; the second greatest spread was according to mental age; and the most restricted spread was on the basis of skeletal age. Skeletal age, as a measure of development for these 12 cases undergoing change of voice, seems to indicate the greatest homogeneity. Inspection of Table II will make this clear.

From this preliminary study of a small number of cases, the following tentative results are suggested:

1. Mental age is the least consistent age measure of children undergoing change of voice.
2. Skeletal age correlates more highly with chronological age than it does with mental age.
3. Boys undergoing change of voice who are of the younger chronological ages are, in general, older skeletally than they are mentally or chronologically.
4. Boys undergoing change of voice who are of the older chronological ages are, in general, younger skeletally than they are mentally or chronologically.
5. Skeletal age gives a more homogeneous grouping of boys undergoing change of voice than does mental age or chronological age.
6. Skeletal age would seem to be more closely correlated with change of voice than the other criteria of age used.

The most important one of the findings above seems to be that

the age range in months for a group of normal boys selected as unquestionably being within the period of change of voice is found to be more restricted when measured according to skeletal age than when measured according to chronological or mental age. In other words, this might indicate that change of voice is definitely growth phenomenon and therefore may vary to a large extent with either chronological or mental age, but will have to be bound up rather closely with a definite range of skeletal age. This result, of course, should be weighed in the light of the possibility that skeletal age is always a more restricted measure than either chronological or mental age, regardless of selection of the group measured.

TABLE I

Comparison of the Twelve Subjects on Three Developmental Age Scales

Child	C.A.	M.A.	S.A.	Rank on C.A.	Rank on M.A.	Rank on S.A.
1.	196	189	179	1	1.5	2
2.	175	145	184	5	9	1
3.	184	182	178	3.5	3	3
4.	152	148	159	8	8	8
5.	147	138	155	10	11	10
6.	184	174	171	3.5	4	7
7.	189	189	177	2	1.5	4
8.	146	154	156	11	6.5	9
9.	134	123	148	12	12	12
10.	150	140	150	9	10	11
11.	171	154	174	7	6.5	5.5
12.	173	173	174	6	5	5.5

Key:
C.A.—Chronological Age S.A.—Skeletal Age
M.A.—Mental Age All ages given in months

TABLE II

Indice	Range in months	Mid-score	Mean Age	Q^1	Q^3	QD	SD	Correlations
Chron. Age	62	172.0	166.75	148.5	184	17.75	19.27	M.A. & C.A. $r = .88 \pm .046$
Mental Age	66	154.0	159.08	142.5	178	17.75	20.85	C.A. & S.A. $r = .86 \pm .034$
Skeletal Age	36	172.5	167.08	155.5	177.5	11.0	13.46	M.A. & S.A. $r = .72 \pm .095$

THE CLINICAL SIGNIFICANCE OF THE SYMPTOMATOLOGY AND ETIOLOGY OF STUTTERING

CLAY TANBERG
University of Washington

I

SO MANY and varied are the definitions of stuttering offered by medical, psychological and speech authorities that to select one all-inclusive definition would be virtually impossible. Since a symptomatic basis seems most desirable from the clinician's point of view for a definition of a speech disorder, such a basis should be our starting point in selecting a definition of stuttering.

First, then, what are the symptoms of stuttering? Most authorities are agreed on the common and fundamental symptoms of sutteering. For example, Elizabeth McDowell says:

> The one symptom I find common to the group I call stammerers is a cramp or muscular spasm accompanying unsuccessful efforts to produce a voiced sound.[1]

And Dr. Lee Edward Travis writes:

> In one sense stuttering may be thought of as a disturbance of rhythm in verbal expression. Hence we may say that there is just one fundamental symptom of stuttering—broken rhythm.[2]

Although at first glance these two statements might seem at variance, analysis will show that Travis' assertion is concerned with the outward manifestations of the muscular spasm held by McDowell to be common to stammerers. The two statements, when combined, are found to agree with the symptoms of stuttering contained in a definition that was formulated by Frederick W. Brown:

> Stuttering is a disorder of speech characterized by clonic and/or tonic spasms of one or more parts of the peripheral mechanism, and by the resultant interruption or inhibition of the rhythm of speech.[3]

[1] Elizabeth McDowell, "Some Interpretations of Recent Researches in the Correction of Stammering," *A Symposium on Stuttering* (Robert West, ed., *Proceedings of the American Society for the Study of Disorders of Speech* (1931), I, 37.

[2] Lee Edward Travis, *Speech Pathology* (D. Appleton & Co., New York, 1931), 96.

[3] Frederick W. Brown, "The Problem of Stuttering," *Symposium*, referred to *ante*, p. 143.

This definition defines stuttering in terms of its most common and fundamental symptoms: interruption of the rhythm of speech, and spasms of the speech mechanism.

Although there are only two primary symptoms of stuttering, a number of authorities list as stuttering "symptoms" certain characteristics that are often—but not always—found to accompany stuttering; a stutterer may not exhibit these characteristics, and a non-stutterer may exhibit them. In spite of this, however, the presence of the characteristics in a large number of stuttering cases, and the fact that such characteristics seldom appear in non-stuttering cases, seem to justify the conclusion that there appears to be a close relationship between stuttering as defined and a number of accompanying characteristics. What is this close relationship between stuttering and the accompanying characteristics? Of what significance is the symptomatology of stuttering to the clinician? Let us briefly review the common characteristics of stutterers before we discuss their meaning.

Both Fletcher and Travis have recorded the characteristics of stutterers.[4] Some of the most common are breathing peculiarities, such as breaks and interruptions in the flow of breath, a disproportion between exhalation and inhalation as compared with normal speaking, and antagonistic action between the abdomen and thorax.

Travis reports other generally accompanying characteristics in the form of tremor and tonal rigidity in the voice, abnormally long duration of tones, bizarre voice-wave forms, extremely brief approximation of the vocal bands before and between tones, extreme abruptness of initiation of tones, repetition of sounds, words, or phrases, and speech blocks. Fletcher finds voice aberrations in the form of "grave temporal displacements of voice records in their relations to those of breathing," and faulty utilization of the breath in tone production.

Travis concludes that:

> In normal speech the entire speech mechanism functions as a unit. In abnormal speech, particularly in stuttering, the various so-called parts of this mechanism may function as a sum of parts working independently of each other to produce the symptoms we have been describing.[5]

And Fletcher states in conclusion that:

> Stuttering cannot be assigned to the functioning of any single musculature involved in the production of speech. It involves them all, symptomatically.[6]

[4] See J. M. Fletcher, *The Problem of Stuttering*, (Longmans, Green & Co., New York, 1928), and Lee Edward Travis, *op. cit.*

[5] Lee Edward Travis, *op. cit.*, 133.

[6] J. M. Fletcher, *op. cit.*, 180–181.

Travis then mentions what he calls "secondary symptoms," and lists as reactions to the stuttering condition social morbidity, fear, anxiety, feelings of inferiority, timidity, seclusiveness, nervousness, and related attitudes. Fletcher, under the heading "psycho-physical symptoms," tells of changes in blood distribution, including dilation of the peripheral system during the stuttering period, of a high pulse rate during reading in stutterers, and of galvanic changes while speaking that correlate roughly with the estimated severity of stuttering.

Taken as a whole, what sort of a picture have we of the stutterer after reviewing his characteristics? We have a person whose speech equipment is momentarily paralyzed, whose breathing is disordered and chaotic, whose heart beats faster, whose blood distribution is abnormal, and whose galvanic changes are greater than normal. And we have a person who reports he cannot think clearly while speaking to another, who feels embarrassed, afraid, self-conscious and inferior in social situations because he cannot express himself adequately, and who feels conspicuous because of his speech difficulty. The picture is that of a person emotionally tense and disorganized, whose entire body is affected by hypertonicity and inco-ordinations, and whose speech mechanism displays a loss of integration and control of voluntary movements.

The significance of the characteristics commonly accompanying stuttering becomes clearer. We begin to see the stutterer not as a person having difficulty with this or that particular sound or word, or as a person whose speech is merely unrhythmical; instead, we see him as a person whose total personality is subject to emotional disturbances in speaking situations, with resultant bodily tensions and neuro-muscular inco-ordinations. This is the person with whom the clinician must deal. It is this picture of the stutterer as a total personality affected by the stuttering itself that the clinician must know and treat in its entirety in order to be successful.

The fundamental causes of stuttering are not known and therefore cannot be directly treated. And while the symptomatology of stuttering may be suggestive, it is not conclusive in ascertaining the causes. Even though the direct causes were known and could be treated, it seems doubtful that by correcting only the primary causal factors, the whole complicated habitual behavior pattern of the stutterer could be modified to conform to normality without treating it by other means and methods. The stutterer's reactions to the spasm itself, for example, starting originally as voluntary movements to aid in escap-

ing from the block, become established habits in the form of tics, abnormally deep inhalations or forced exhalations, and though the block itself may be effectively treated, the reactive habits persist and demand special treatment. Any abnormal characteristics exhibited by stutterers in speech situations, ranging from unnecessary muscular activity to abnormal mental attitudes, emotional responses and affective tendencies, are a part of the stuttering and may demand the clinician's attention. And so, even though the primary causes of stuttering were known and could be treated, the patient's behavior as a whole—the total personality—would still have to be re-integrated. It is the symptomatology that indicates how greatly the entire organism has been affected and what corrective procedure should be followed.

Thus the characteristics commonly accompanying stuttering are significant in indicating the extent and influence of the stuttering on the personality and behavior of the patient and the treatment to be applied.

II

Just as the symptomatology is clinically significant, so is the etiology of stuttering significant in indicating treatment. Although it was stated that the fundamental causes of stuttering are not known, certain causal factors have been suggested by a number of speech authorities that warrant clinical recognition. Since the classification of these factors into *predisposing*, *precipitating* and *maintaining* divisions aids in the analysis and discussion of them, this classification is used here.

Under *predisposing* factors are placed inherent or acquired characteristics such as abnormal nervous reaction, emotional instability, inadequate speech training and unfixed speech patterns. A history of stuttering in the family would be included as a predisposing factor, the significance of it lying in the possibility of inheriting neurological tendencies or emotional instability.

A person having abnormal nervous reactions or emotional instability, or unfixed speech patterns, would be rather likely to stutter as a result of a *precipitating* factor such as excitement, shock, illness, injury, or the presence of another stutterer. When, for example, such a person is confronted with an unusual situation, he is likely to respond with a greater degree of emotion or neurological disintegration because of his predisposition than would a normal individual, and would resultantly be unable to express himself. His speech pattern is disintegrated and the individual is said to stutter.

There are, then, probably two factors necessary to induce stuttering in most instances: the organic disposition and the immediate situation. It may be that in some cases either one of these factors would be sufficient in itself to initiate the stuttering. If it were, however, that single factor would probably be abnormal enough to attract attention to itself and to be recognized as the causal factor. In other words, if the person were sufficiently disposed by reason of organic abnormalities to develop a stutter on being subjected to a relatively common situation, the predisposing organic condition would probably be indicated by signs other than the stuttering; or if a shock, illness or injury were severe enough in itself to initiate stuttering without the individual's being particularly predisposed to it, that factor would probably be unusual and affective enough to be remembered and to be considered a causal factor. The mystery surrounding the cause of stuttering seems to lie in the influence of and interaction between an unbalanced organic condition not abnormal enough to be recognized, and some specific affective situation or environmental factor not in itself obvious enough to seem causally related to the stutter.

Certain causal factors, it may be noted, cannot be assigned to either one or the other of the predisposing or precipitating classifications, particularly those of general environmental conditions, such as nervous or over-critical parents or associates, that may not only cause a predisposition through developing emotional instability, but may provide a precipitating situation as well, although the latter may be relatively insignificant—the "last straw," as it were.

The influence of the predisposing factors, as well as the recurrence of precipitating factors, can well be regarded as *maintaining* factors in stuttering; but in addition to these, there are other characteristics which may assume even greater etiological significance. These self-maintaining factors can best be illustrated by taking as an example a fairly representative case of stuttering. We have a child, let us say, who tends to be hypersensitive or over-emotional either from hereditary or environmental influences too subtle to be identified. The child becomes excited over some incident and begins to speak. His emotion tends to disturb the co-ordinations involved in speech responses. The child's speech activity is blocked—he finds himself unable to speak. His attention is directed upon his speech behavior and he tries to assume control of his speech mechanism or to force his way through the block, with the result that under the stress of attempted volitional control the normally automatic speech process becomes still more confused and chaotic. And there occurs an in-

crease in the duration and intensity of the stutter, of the individual's emotional reaction, and of his efforts to control the speech mechanism —all combining to form a self-maintaining process, a vicious circle.

After several such stuttering experiences, and in some cases as a result of one such instance, a self-conscious, fearful attitude develops in the individual towards his speech and towards speaking situations. Emotional tensions are built up that interfere with the co-ordinations between the various musculatures involved in the production of speech. The stutterer's attempts to direct his speech mechanism volitionally result in still greater interference with the integrations basic to normal speech production. This behavior pattern, consisting of emotion, self-consciousness, attempted volitional control of the speech mechanism, and disordered speech, becomes fixed by the operation of conditioning factors and reinforced by emotion until it becomes virtually an habitual response to particular (or even general) speaking situations.

Thus, stuttering appears to be a symptom of the stutterer's general emotional instability. This instability is related particularly to his own speech process, and to the specific environmental factors created by his speech difficulty, and is made more intense by his mental attitudes. In the final analysis, then, stuttering seems to be caused and maintained by a lack of integration and co-ordination in the personality of the stutterer. It is only with the conscious recognition of the influence of all the maintaining etiological factors, as indicated by a careful analysis of the symptomatology and history of the individual's case, that the clinician can most effectively treat a stutterer and develop a more balanced and better adjusted personality.

NEW BOOKS

Four-Star Scripts. By LORRAINE NOBLE. New York: Doubleday, Doran, 1936; $1.50.

The motion picture has impressed our lives to such an extent, has influenced our manner and thought to such a great degree, that it seems rather difficult for us to gain any perspective. Perhaps that is why, until recently, we have had very few books on the movie art. And although some of them, as in every pioneer enterprise, are uncertain and indefinite, some present a clear view of Hollywood in working clothes.

Lorraine Noble, in *Four-Star Scripts,* offers a clear explanation of the technique of talking-picture scripts. The author includes the scripts of four superior talking pictures, namely, *Lady for a Day, It Happened One Night, Little Women,* and *The Story of Louis Pasteur.*

The author says that "story interest is the first consideration of the writer," and that the screen play is most like the short story. Hence, Hollywood exhausts the short story market for new ideas. The relation of theme to character, plot development, climaxes, sequences, episodes, fades, dissolves, wipes, close-ups, zoom shots, just plain shots, and other Hollywood secrets are well explained, and certainly one is going to enjoy his next movie much more after reading Lorraine Noble's opening chapters.

This book should be a welcome addition to the complete dramatic library, for it gives recognition to an important art. It is one of the first, no doubt, of a long, long line of textbooks to bear the general title of "Fundamentals of the Cinema Art." It has made a very desirable start.

EUGENE BAHN, *Colgate University.*

A History of the American Drama. By ARTHUR HOBSON QUINN. New York: F. S. Crofts & Co., 1936; pp. xxv + 432. $5.00.

In 1927 the author followed his *History of the American Drama from the Beginning to the Civil War* (1923) with a two-volume *History of the American Drama from the Civil War to the Present Day.* This division of the treatise covers material from Augustin Daly to Clyde Fitch and from William Vaughn Moody to the pres-

ent day. Now he has published a revision of the latter work. It includes an additional chapter, The New Decade, 1927–1936, and the bibliography and the play list have been augmented to cover the period treated in the new chapter.

In his preface to the first edition, Quinn stated his three objectives in surveying the American drama to be: first, to paint a picture of the drama; second, to point out in the playwriting of the period the prevailing types and tendencies, so that some coherent progress might be apparent; and last, to indicate the relative merits of the dramatists.

The author's treatment of his first objective, the historical survey of the drama, evidences exhaustive research through old manuscripts, articles, and books on the drama and the theatre, and comprehensive knowledge gained from play reading, from theatre-going and from consultation with playwrights, critics and workers in the theatre. His treatment, at once scholarly and entertaining, has presented a vivid chronological record.

Because Quinn writes of the drama and not of the theatre, he does not air the likely influences of the theatre on the drama. He is primarily interested in the way in which the playwrights have developed in their choice and artistic handling of subject matter. In following this line of interest, the author has not stressed the influence upon American playwriting of recent European playwriting and of the theatre, American and European. It would be gratifying if he should extend the scope of his study to treat more of these relationships.

In attempting such a comparative study, the author invites disagreement on details, but he has proved himself a formidable protagonist of his interpretations. The interpretative analyses, while conservative, are far-seeing. What he wrote ten years ago is true today.

In view of its learned and enduring character, this history constitutes a text indispensable to students and teachers. Arthur Hobson Quinn, scholar, critic, and enthusiast of the drama, has produced a timely, systematic, thorough, and entertaining work.

MARY K. ROGERS, *Alfred University*

Historic Costume. By NEVIL TRUMAN. New York: Pitman Publishing Corp., 1936; pp. 152; 300 illustrations. $3.00.

Mr. C. B. Cockran, in his foreword, speaks of the "exact knowl-

edge of dates and detail which Mr. Truman here supplies in a handy and compact work of reference." Mr. Cockran is too kind. For the author, if he has the "exact knowledge," does not always display it. Whether deliberately or unconsciously, he tends to agree with Mr. Cockran's own idea that "Sometimes it is better to indulge the popular conception, even if it is not accurate." Indeed, in some places he goes farther than that. In his description of Puritan costume he informs us that "the materials were of muddy brown, funereal black, and other shades that were reminiscent of dirt and mud." Undoubtedly the "popular conception" of Puritan color is something sober. But I doubt that "dirt and mud" have any place in the "popular conception." Quite to the contrary. Puritan, I have been assured, suggests costumes that are "crisp, simple, and immaculate."

The text makes interesting and amusing reading, for Mr. Truman has strong personal tastes, and these he states quite freely throughout the book. When he doesn't like a period costume, he tags it with a few sharp words, as in his chapter on The Nineties, 1890–1900: "As for the men! The less said about their costume the better." He then discusses it briefly and disapprovingly. On the other hand, when he approves of a costume, he waxes enthusiastic, as in the chapter on The Martyr King, 1625–1649. Since Mr. Truman considers Charles I an "artist and a saint," and approves the costumes of the period, his descriptions are detailed and accurate. The text, therefore, is of uneven quality, good for the periods the author likes, inadequate for those he dislikes.

An excellent feature is the series of concise tables placed at the end of each chapter, showing the exact clothes of the period. These tables include men, women, children, and peasants; and list dress, legs, feet, hair, hats, and jewels. Clergy and armor are treated in separate chapters, with tables of their own. The tables should be very helpful to the novice in costume who knows enough to take the word "exact" with a grain of salt.

The best parts of the book are the illustrations. There is an Appendix of Diagrams Showing the Evolution of Styles that covers the high spots in silhouette from Saxon times to 1900. Each chapter has a goodly share of illustrations, the articles shown being carefully labeled, as for example in that of a Civilian in 1400; the articles there labeled are Paltock, High Neck of Houppelande, Bag Sleeve, Large Anelace, and Houppelande. It is unfortunate that there is only one

illustration of a Roman lady, and that showing her in the imperial toga and with smooth, simply arranged hair.

With the exception of the chapters on Greek and Roman costume, the book treats only of English costume. Moreover, foreign influence in style and foreign styles in England are largely ignored. But then one would hardly expect much more in 152 pages.

ELIZABETH D. WORMAN, *Cornell University*

The Philosophy of Rhetoric. By I. A. RICHARDS. New York: Oxford University Press, 1936; pp. 138. $1.75.

This book is made up of six lectures, slightly revised, delivered on a lecture foundation at Bryn Mawr. If all or most of the young ladies followed unfailingly Mr. Richards' development of his subject, they were very remarkable young ladies indeed.

Mr. Richards premises by saying that the older writers on rhetoric, Whately, for instance, were too general and sweeping in their attack; their methods were macroscopic, whereas microscopic methods are necessary. A basic need for the re-animation of rhetoric is a new approach to the study of the individual word and its infinite capacity for fluctuation. He propounds a new definition of the word "word," a definition upon which his whole doctrine turns: "It is enough for our purpose to say that what a word means is the missing parts of the contexts from which it draws its delegated efficacy." That sentence may suggest that the book is not one to be browsed in during the ten minutes before dinner.

Mr. Richards is not concerned with rhetoric in the sense in which we are professionally interested in it: he speaks of the "narrowing and blinding influence" of rhetoric when it is considered as "an offspring of dispute;" the "combative impulse" is to him necessarily a perverter of those fundamental verbal significances which he would seek. The book has, however, a value to the serious student of the whole art of communication, for its fund of rich suggestion and of provocative side remarks. I may note as particularly interesting his re-evaluation of the doctrine of Usage and of what he calls the Club Spirit, that is, Snob Control, in the pronunciation of words. He clearly intends this book as a prospectus of a more ample exposition of his doctrine of the connotational and utterly flexible nature of word meanings; he speaks of the "tentative provisional spirit in which this subject should at present be treated." By itself this book is far from satisfying, but it is still constantly stimulating.

JOHN B. EMPEROR, *University of Tennessee*

The Psycho-Biology of Language. By GEORGE KINGSLEY ZIPF. Boston: Houghton Mifflin Co., 1935; pp. ix + 336.

In 1929 Professor Zipf published an illuminating essay entitled "Relative Frequency as a Determinant of Phonetic Change" (*Harvard Studies in Classical Philology*, vol. 40, pp. 1–95); he followed this, in 1932, with a volume of *Selected Studies of the Principle of Relative Frequency in Language*, and recently with the present work. The thesis which has given direction to this long (and still incomplete) investigation is that:

> The accent, or degree of conspicuousness, of any word, syllable, or sound, is inversely proportionate to the relative frequency of that word, syllable, or sound, among its fellow words, syllables, or sounds, in the stream of spoken language. As usage becomes more frequent, form becomes less accented, or more easily pronounceable, and *vice versa*. (*Harvard Studies*, p. 4.)

More recently Zipf has qualified the mathematics of this statement, but has developed the principle until it seems likely to become one of the most fruitful fields for twentieth-century linguistic investigation. The earliest work dealt mainly with the individual sounds and accents; the latest covers the entire field from the phoneme to the stream of speech.

Frequency counts, as shown by Zipf's tables for a dozen languages, indicate that the shorter words are usually the more numerous. We are all familiar with the shortening of *gasoline* into *gas* and of *moving pictures* into *movies* as the things themselves become more familiar and more a subject of daily conversation; similarly the complexity of phonemes varies with their relative frequency. Thus, voiced stops, which have the added complexity of voicing, are normally less frequent than their corresponding voiceless stops; Spanish *d*, which became too frequent for the normal ratio with *t*, has weakened in some positions to a fricative, and in others has dropped out entirely. The relative complexity of the voiced sound is admittedly, however, not fully established. Zipf has not discussed the development of voiced fricatives from earlier voiceless fricatives in such words as *the, of,* and *with;* nor the development of voiced stops in the popular pronunciation of such words as *Protestant* and *significant;* here weakened accent has apparently made the sounds more complex as the frequency of the voiced sounds has been increased. Subsequent investigation may throw light on this paradox. In general, Zipf thinks of each sound as relatively fixed between upper and lower limits of tolerable frequency; beyond these limits

it tends to change in one way or another. Such a change, by disturbing the frequency balance of other sounds, might well bring a whole series of changes in its wake. So-called spontaneous changes, such as that which has been operative in the English tense vowels, and which has been variously interpreted by Aiken and Lotspeich, for instance, may be the result of such a chain of disturbances in the frequencies of the affected sounds. In short, Professor Zipf's investigations have opened up an immensely interesting field, from which we shall doubtless get more results in the future.

C. K. THOMAS, *Cornell University.*

An Actor Prepares. By CONSTANTIN STANISLAVSKI. Translated by ELIZABETH REYNOLDS HAPGOOD. New York: Theater Arts, Inc., 1936; pp. 295. $2.50.

An Actor Prepares (a most accurate title) in a series of "lessons" expounds Stanislavski's methods of starting the prospective artist-actor on the right road. The author inclines "toward the *emotional side of creativeness* . . . purposely because we are too prone to leave out feeling." He would not be acceptable to the mechanical or stereotyped school that would perfect an external technique which, in performance, would be fixed and unvaried through many repetitions. He respects inspiration but rejects a purely inspirational method and has no sympathy with those who merely exploit their art by self-display.

His "system" recognizes two methods: (1) a purely intuitive and directly subconscious performance, and (2) his "psychotechnique," which is semi-conscious and controlled by the conscious, and in which the subconscious or intuitive is stimulated and induced to operate along with the conscious. "Therefore, the fundamental objective . . . is to put us in a creative state in which our subconscious will function naturally.

Always, on the stage, one acts willy nilly, and so one should act with a *purpose*, acquired through stimulating the creative-subconscious by means of the "magical 'If' which acts as a lever to lift us . . . into the realm of imagination." In other words, one must *accept* and *believe* in the given circumstances or assumed conditions of the play—in both character and situation. This realm of imagination has its basis in the actor's own experience—emotions similar or comparable to those of his rôle, rediscovered in and recalled from the storehouse of memory and, so, associated with and stimulating the

subconscious. Let him recall the right *feeling*—not his external behavior—and the actor's subconscious, aided by relaxation and concentration—can be trusted to function *naturally* to produce the right reaction. The actor focuses his attention upon a stage-world, discrete from that in the auditorium. He concentrates exclusively upon the main theme of the play and of his rôle, co-ordinating all the minutiae of interpretation—problems of action and of motive—in accordance with the scheme of the play. He attains a convincing, affecting feeling of "communion" with other rôles and with the "given circumstances." He must not try to control the subconscious but, rather, learn the indirect method of approaching it and giving himself up to its power. The serious and earnest attitude that pervades Stanislavski's teaching is naturally favorable to tragedy but obviously the same logical fidelity to the dramatist is conducive to the proper interpretation of other types of drama.

However, there is a Stanislavskian inconsistency: his advocating a complete realistic *mise en scene* for its effect *on the actors* to facilitate the concentration of their attention on the stage. This expediency is somewhat in opposition to the principle of make-believe (the "If"). Yet when told that "If the curtain were up, and the audience there, the desire [to act] would come," Stanislavski replied, "If you are really artists you will feel the desire without these accessories."

An Actor Prepares is a fascinating book to be read by or imparted to all students of the theatre, to sharpen their observations and develop their appreciation of acting.

WILLIAM ANGUS, *Queen's University, Kingston, Canada.*

Modern Acting: A Manual. By SOPHIE ROSENSTEIN, LARRAE A. HAYDON, and WILBUR SPARROW. New York: Samuel French, 1936; pp. 129. $1.50.

With successful practical experience behind them, the authors of this volume have outlined the principles of acting they have found useful for the teacher and pupil of dramatics. The form, with chapters headed "Sensibility," "Observation," "Concentration," etc., suggests Richard Boleslavsky's *Six Lessons in Acting*, and the content, too, duplicates many of the theories in the Boleslavsky book. Of chief value are the numerous illustrative problems, presented to clarify the theories, and the exercises suggested for actual classroom work. The authors would have done well to omit the superficial

chapters on production and on voice and speech, for, both being inadequate, they clash with the authoritativeness of the other chapters. If the subjective elements of acting can be taught (not all, surely, will agree they can, at least in the college classroom), this clear and concise manual should provide a stimulating background.

JONATHAN W. CURVIN, *Hobart College.*

Reorganization of the Supreme Court. The Reference Shelf, vol. xi, no. 4. Compiled by JULIA E. JOHNSON. New York, The H. W. Wilson Co., 1937; pp. 326. $.90.

The Wilson Company had already published a reference shelf on the Supreme Court in the preceding volume (x, no. 6). President Roosevelt's revolutionary message to Congress on Feb. 5, 1937, necessitated a new volume called "Reorganization of the Supreme Court." The proposition reads: "Resolved, That the Supreme Court should be reorganized in accordance with the President's plan." Although the Supreme Court issue (giving to Congress the right to over-ride by a two-thirds vote acts of Congress declared unconstitutional by the Supreme Court) has been debated as recently as 1935–36 by Pi Kappa Delta colleges and other schools, no doubt the President's action will bring the question into debating circles again.

The volume contains pronouncements by such eminent men as Homer Cummings, Harold Ickes, Dean Charles Clark, Henry Wallace, Dean Leon Green, Dean Young Smith, Chief Justice Charles Evans Hughes, James Truslow Adams and William Allen White.

RAYMOND H. BARNARD, *Ball State Teachers College.*

You, Too, Can Become a Public Speaker. By JOHN HEWINS KERN. New York: Governor Publishing Corp., 1937; pp. 72. $1.00.

A modern Prohaeresius, who offers to face any audience and speak for half an hour on any subject (to be drawn from a hat), explains his system that others may "lord over" their audiences, "flaying the members alive, tearing off their skins with flow of language."

To achieve success in the formula of this book, one seeks constantly to make an impression by pouring forth loud and bold the reading of the night before to any assembly that may be induced to listen. If clubs are unavailable or apathetic, one sets up his box in the square and impresses an intermittent audience. Directions are

given for holding the audience on and the corner policeman off.

Unfortunately the author's knowledge of the fair practices of rhetoric and of the police is not extensive. The effect of this book is bound to be an increase in nuisance speaking, whether before polite assemblies or censorious cops.

RICHARD MURPHY, *University of Colorado.*

Industrial vs. Craft Unionism, The Reference Shelf, vol. xi, no. 3. Compiled by JULIA E. JOHNSON. New York: H. W. Wilson Co., 1937; pp. 320. $.90.

In this volume, appearing with a timeliness one expects of this series, detailed and discriminating expositions of C. I. O. and of A. F. of L. are given. The work lacks, however, adequate information concerning employer policy; the compiler might well have remembered that organized labor is fighting not only itself but also organized capital.

Without some insight into the forces opposing unions, the student will not understand the bitterness, the strife, the bloodshed, which have consistently accompanied attempts of labor to organize, and which have shaped the nature of organization. Nor will he be able to choose intelligently among types of unions unless he can learn the actual policy of employers in addition to their pious statements. In this respect the study would have gained from inclusion of some of the findings of the La Follette Sub-committee, and from fuller reference to works dealing with management in industry. Levinson's *I Break Strikes* deserves, at least, mention in a bibliography sufficiently exhaustive to include Sullivan's *This Labor Union Racket.*

Space might have been found, too, for an answer to an article attacking teachers' unions; with only one side given, students may think the timid profession in need of restraint, even in a non-partisan work.

Although the method of the book serves as a model in most respects, the summary of arguments can be improved. These still appear, despite comment in the Q. J. S. (xxii, 326, April, 1936), mainly as 'tis and 'tain't counter-statements. Substitution of a careful analysis of the query would help direct purposeful argument.

In general there seems to be no question about the worthiness of these volumes. Rather the question to be raised by the teacher is the use to which the *Shelf* is put. If used to start an inquiry, the student has found a source of inspiration. But if they are used as the

complete organon, a custom rather wide, it is possible even meager original investigation may be superior to these highly excerpted and eclectic sources, worthy as they may be if properly used.

RICHARD MURPHY, *University of Colorado.*

General Principles of Play Production. By GILMOR BROWN and ALICE GARWOOD. New York: Samuel French, 1937; pp. 177. $2.00.

The principles clearly and succinctly set down in the eleven chapters of this little book are traditional and standard. They are the elementary methods of directing procedure which the novice must indelibly master, the objective starting points from which all experienced directors have proceeded toward the fashioning of their own individualistic and subjective theories of rehearsal.

About one-half of the manual—Chapters II through VI, The Director's Use of the Stage, Movement, Necessary Business, Imposed Business, and The Stage Picture—is especially meaty with a useful, if conventional, discussion of playing areas and with many solid instructions for the group management of actors on-stage. The rest of the book is not so profitable: the discussion of dialogue is sometimes mechanical and often old-fashioned or incomplete; the chapter on characterization practically ignores the contributions of Stanislavski and Vakhtangov; and the remarks on tempo, rhythm, and style are as vague as such remarks are wont to be.

Furthermore, the appendices on play selection, casting, and rehearsals as well as the Directors and Actor's Glossary are, except to the most inexperienced directors, mere padding.

Mr. Brown and his collaborator should perhaps have included some of the former's personal, artistic methods of play direction as well as some of the latter's experiences as the longtime producer for the Pasadena Community Playhouse. In short, it is time for directors to stop writing the traditional primers, and to start searching out and setting down their own well-developed theories of rehearsal—if only to start that uproar of disagreement and discussion which will mean that play directing has not become merely a cold-type recipe.

EDWIN DUERR, *University of California.*

The Art of Make-Up. By SERGE STRENKOVSKY. New York: E. P. Dutton Co., 1937; pp. 350. $3.75.

Although his writing, edited as it is, is often pedestrian and

primer-like, Serge Strenkovsky—blurbed as formerly a member of the Russian Dramatic Society, the Italian Theatrical Federation, and now teacher of make-up at the Maria Ouspenskaya School of Dramatic Arts—apparently knows his subject. The material in his book is abundant and profitable, covering every aspect of stage, photography, motion picture (but not television), and every day make-up except the history of this minor art and an exposition of the manufacture of make-up supplies.

Because three sections of the work are more or less new to make-up manuals, this book might well supplant most of them. Part I, The Theoretical Principles of Make-Up, discusses the nature, the aesthetic foundations, and the technical conditions of making-up and deduces therefrom eighteen specific rules which are generally worth following. Part IV covers non-stage make-ups. And Part III, Physiognomics and Mimicry, is definitely the new contribution of the book, sixty-five pages devoted to something like a Delsartian analysis of emotions as expressed by the face and to a Mantegazzan listing of the face's structure and the variations caused by race, age, disease, etc.

Part II is an eminently practical guide to actual stage make-up, perhaps most useful for its chapter on "'Character' make-up of single features."

The Art of Make-Up concludes with a lengthy bibliography, fifty-six pages of excellent diagrams and illustrations, but no index—a fault which must be remedied.

EDWIN DUERR, *University of California.*

How To Teach Good Speech in the Elementary Schools. LETITIA RAUBICHECK. New York: Noble and Noble, 1937; pp. 276. $2.00.

It is a pleasure to recommend the well-printed *How To Teach Good Speech in the Elementary Schools* by Dr. Letitia Raubicheck, Director of Speech Improvement in the New York City School System. This book has been written for the regular class teacher, and as such is a pioneering work. It is divided into three parts: Part I, The Place of Speech in the Elementary School; Part II, Techniques and Procedures in Teaching the Fundamentals; Part III, Techniques and Procedures in Teaching the Speech Arts. The author has seen fit to omit a description of techniques in speech correction, since the book is addressed principally to the classroom teacher. There are, however, many excellent suggestions for speech improve-

ment, and these may be profitably used in correcting the most common types of functional (bad habit) speech defects.

Part I provides the class teacher with an evaluation of speech as a subject in the elementary school curriculum, together with a background of knowledge of how the child grows into speech and an understanding of the most common problems of speech handicapped children.

Part II presents techniques and fundamentals for the teacher who is confronted with pedagogic problems of voice training, articulation and enunciation, phonetics, correction of foreign accent and dialects. Doubtless, some teachers will hesitate to adopt Dr. Raubicheck's suggestion that the International Phonetic Alphabet be used in the lower grades. As a teaching device, they will prefer to use diacritical markings, which the author does not recommend. Others may not have the time or inclination to drill their pupils in such phonetic distinctions as [taɪm] for [tɑɪm], [hɜd] for [hɔrd] and the like; nor will they make use of some of the narrow symbols. Yet the book need not lose value, consequently, for such teachers.

Part III is a presentation of methods and suggestions useful in teaching oral interpretation of literature, choral speaking, public speaking, conversation, and dramatics. As such, it should have a well nigh universal appeal for elementary school teachers.

A valuable section of the book is the appendices: a teaching unit, word lists, check lists, and record forms are included. Helpful bibliographies are appended to the individual chapters.

JAMES F. BENDER, *Queens College.*

Twenty Short Plays on a Royalty Holiday. Edited by MARGARET MAYORGA. New York: Samuel French, 1937; pp. 435. $3.00.

The plays in this collection are well above the usual quality of non-royalty one-acts. Among those which should especially interest producers are: *Auf Wiedersehn,* Sada Cowan's strong drama of Nazi Germany; *Flood Control,* an excellent melodrama by Milward W. Martin; *Monkey House,* a good farce about a PWA constructed zoo, by Howard Callen; *Shooting Star,* a serious play about gold mining; *The Front Door,* serious farm drama by Barbara Busse; *Everybody's Doing It,* a farce about plastic surgery with a cast of seven women; and *Lawd, Does You Undahstan',* a strong drama of Negroes and lynching by Ann Seymour.

B. H.

The Flying Wasp. By SEAN O'CASEY. London: The Macmillan Co., Ltd., 1937; pp. xiii + 201. $2.25.

A volume of essays by one of the most important playwrights of today cannot fail to be of interest to students of the theatre. Moreover, so strongly does Sean O'Casey feel about the theatre and so vigorously does he express his feelings that almost anyone will find him entertaining.

He believes that dramatic criticism died in England when Shaw ceased to pass in review the current theatre, and declares that true dramatic criticism flourishes now only in America in the person of George Jean Nathan. O'Casey in these essays is taking his innings in a not entirely friendly game with the present English dramatic critics. He makes them look pretty silly, merely by quoting them with shrewd comments, and then buries them under a torrent of invective, which, though delightful in its freedom and lustiness ends by making the critics seem more important than he would have us believe they are.

These essays reveal a wit not unlike Shaw's, together with a talent for name-calling of which Nathan might not be ashamed. The compass of O'Casey's observations here is narrow, but his vision is acute, and he writes with gusto.

B. H.

Ease in Speech. By MARGARET PAINTER. Chicago: D. C. Heath and Co., 1937; pp. 420, $1.64.

Ease in Speech is advertised as "a practical guide to prepare high school pupils for the speech occasions of everyday life." In that one word, "practical," lies its greatest asset. That the book is aimed toward everyday speech occasions is evident throughout. It teaches almost nothing except extempore speaking. Oral reading and dramatics are omitted altogether. Debate is given just a few pages. Chapters are included, however, on group discussion, parliamentary law, and radio speaking. The main intent of the book explains most of these inclusions and exclusions, but it does not explain why only approximately fifteen pages out of the total four hundred and twenty are given over to a weak treatment of voice and action.

The worst possible recommendation for this book is to read the titles of its chapters. They reveal that the work is not particularly scholarly and not at all orderly. The best possible recommendation for the book is to read it through. This shows that the author

obviously understands students. She realizes how much they need confidence, and she knows how to encourage them.

The book should achieve its general purpose of teaching ease in speech. It could best be used for ninth and tenth grade students. Margaret Painter's *Ease in Speech* will prove a usable high school text—though, because of its deficiencies, not a revolutionary one.

EVA L. HESLING, *Muskegon Senior High School, Michigan.*

Going To Make a Speech? By E. ST. ELMO LEWIS. New York: The Ronald Press, 1937; pp. x + 350. $3.00.

Going to Make a Speech? is addressed primarily to laymen, especially business men. It is a book every teacher of public speaking should read, but as a textbook it is limited to adult or extension teaching. For the college classroom, the book lacks exercises, topics and assignments, but could profitably be used for collateral reading. It is designed for the use of the mature speaker who, by necessity rather than choice, faces the problem of what to do when one "has to say something." Mr. Lewis himself belonged originally to this class of speakers. As a counselor in consumer and trade relations, Mr. Lewis has spoken to 2,000 audiences, and from that experience he has evolved a highly practical approach to the problem.

Teachers of public speaking should like the emphasis the book places upon the audience. "There is the audience, always the audience which finally determines whether you have anything worth saying." Mr. Lewis iterates and re-iterates the necessity of co-operating with the program committee to find out all one can about the audience and occasion, and lists "precautions that help to insure success." More attention than is usual is paid to the presiding officer, the introduction to the audience, and amenities, so as to "fit the bait to the fish." The author's simple language and abundant illustrative materials clarify the principles advocated.

RAYMOND H. BARNARD, *Ball State Teachers College.*

A Contemporary of Shakespeare on Phonetics and on the Pronunciation of English and Latin. By H. G. FIEDLER. New York: Oxford University Press, 1936; pp. 21. $1.00.

This study, which first appeared in Bulletin 15 of the Modern Humanities Research Association as the Presidential Address for 1936, is an account of Robert Robinson's *The Art of Pronunciation*, which was published in London in 1617. Professor Fiedler's analysis

of the copy in the Bodleian Library, which "seems to be the only one extant," leads him to the conclusion that Robinson deserves an honored place in the list of such early phoneticians as Hart, Gill, Wilkins, and Cooper. In view of the recognized difficulty of interpreting the works of bygone linguistic scholars, one wonders if Professor Fiedler has not been too optimistic in identifying Robinson's symbols with specific sounds.

C. K. THOMAS, *Cornell University.*

S.P.E. Tract No. XLVIII. New York: Oxford University Press, 1937; pp. 12. $.85.

This latest tract from the Society for Pure English consists of htree short articles. "Linguistic Self-Criticism," by Otto Jespersen, deals with those asides and qualifications which throw light on the mental state of the speaker or writer during the act of composition; it should be of some utility to students of extemporaneous speaking. "Terminology in Physics," by C. G. Darwin, is concerned with the growing awkwardness of British and American nomenclature in the field of atomic physics. "The Irregularities of English," by Sir W. A. Craigie, briefly deals with the modern residue of Old English morphological irregularity.

C. K. THOMAS, *Cornell University.*

Your Everyday Speech. By WILLIAM NORWOOD BRIGANCE. New York: Whittlesey House, 1937; pp. ix + 230. $2.50.

This book marks Professor Brigance's major campaign to popularize speech improvement, a campaign preceded by minor forays into *The Woman's Home Companion* and *The Ladies Home Journal.* Two-thirds of the book cover the familiar ground of "better speech;" the remaining third briefly outlines the problem of children's defective speech in general, and the cerebral-dominance theory of stuttering in particular.

Popularizers of "better speech" have rarely sensed the nature of the dictionary's authority, which is based on accuracy of observation; usually they regard the dictionary as a collection of infallible precepts for linguistic conduct. But Professor Brigance is more orthodox than most popularizers. A number of his pronouncements on correct pronunciation ignore important facts of educated usage, as recorded, for instance, in the 1936 Merriam Webster. Specifically, Professor Brigance will have none of the variety which Webster records in the

educated pronunciation of *bosom* (p. 35), *roof, root, hoof* (p. 120), *constitution* (pp. 13, 138), *duke* (p. 139), *prohibition* (p. 144), *version* (p. 145). Though he accepts the principle of regional standards of pronunciation, he is not quite certain of the categories and criteria which distinguish one standard from another; witness the classification (p. 35) of *draught* with *bad* and *hat* instead of with *ask* and *laugh*.

It is refreshing, after the weaknesses of the main part of the book, to find the last third very good. Here in simple language we find tests and treatments for all sorts of speech defects, including tests of handedness that can be used at home without a battery of instruments or a dictionary of technical jargon. The author is popularizing in this section, too, but until the specialists have access to a much larger proportion of the population, the popularizer serves a definite need. If the phonetic misconceptions could be eradicated, the book would be truly worth while.

C. K. THOMAS, *Cornell University*.

University Debaters' Annual. Edited by EDITH M. PHELPS and JULIA E. JOHNSON. New York: The H. W. Wilson Co., 1937; Vol. XXIII, pp. 533. $2.25.

Few reference books in our field enjoy a fuller measure of popularity than *The University Debaters' Annual*. By presenting a yearly record of discussions on current social problems, this work, unlike many volumes of collected addresses, manages to keep in close touch with a swiftly-changing scene.

The 1936–37 edition contains eleven debates on ten subjects of present day interest. In keeping with previous editorial practice, debates on both propositions of fact and of policy appear in the collection. A number of the resolutions, though used rather widely last year, will no doubt be on the preferred list of many secondary schools and colleges this season.

The *Annual* performs a real service not only in providing a record of bibliographies, briefs, and speeches on timely questions, but also in popularizing new discussion methods which give to debating a certain vitality of which it sometimes stands in need. The current edition contains, among other types, a discussion in which heckling was permitted and another in which the "Problem Solving" method was used. A description of the procedure for the latter precedes the record of the speeches.

This volume, together with the score or more of previous editions, tends to give stability and continuity to intercollegiate debating as an organized discipline.

LESTER THONSSEN, *College of the City of New York.*

The Speech Choir. With American Poetry and English Ballads for Choral Reading. By MARJORIE GULLAN. New York: Harper & Brothers, 1937; pp. vii–xix + 284. $1.75.

The Art of Choral Speaking. By CÉCILE DE BANKE. Boston: Baker's Plays, 1937; pp. 227. $1.75.

Those who were fortunate enough to hear Miss Gullan at the National Association's Chicago convention will be more than interested in her new book concerned with choral speaking. Beginning with a brief history of and introduction to the speech choir, Miss Gullan treats seven separate aspects of choral speaking in as many chapters. These sections, Preliminary Studies, Poems with Refrain, Poems for Two-Part Work, Poems for Sequence Work, Poems for Cumulative Work, Poems for Unison Work, and Poems for Individual Work, are each preceded by a short introduction, always very helpful. But the author has not been content with reprinting the poems; each poem is commented on, sometimes at considerable length, by Miss Gullan. These comments clear up whatever difficulties may be encountered in the poems, suggest treatments of the poems, and relate incidents from the author's rich experience in the field.

Miss de Banke's book, on the other hand, is less concerned with reprinting poems suitable for choral speaking—though an ample bibliography is provided at the end—than she is with presenting in detail a great many aspects of the art. As one reads further in the book, one is the more impressed with the real scholarly ability of the author. The volume is replete with apt illustrations, the writer is extremely competent, and the result is a most satisfactory one.

In a field so wide as choral speaking, there is room for both of these works. No teacher of this art can well afford to be without either book.

THEODORE G. EHRSAM, *Hofstra College, Hempstead, New York.*

Reading, Writing and Speech Problems: A Presentation of Certain Types of Disorders in the Development of the Language Faculty. By SAMUEL TORREY ORTON, M.D. New York: W. W. Norton and Co., 1937; pp. 215. $2.00.

This book, comprising the Thomas W. Salmon Memorial Lec-

tures for 1936, is devoted to the exposition of the author's view "that many of the delays and defects in the development of the language function may arise from a deviation in the process of establishing unilateral brain superiority in the individual areas."

Language losses in the adult as the key to the developmental disorders in children are described in chapter one, the first fourteen pages of which give a clear exposition of the cerebral physiology of the language faculty. The developmental disorders of children are described in chapter two, and the third, and last, chapter, is devoted to their interpretation and treatment. They are classified under the following syndromes:

1. Developmental Alexia (The Reading Disability)
2. Developmental Agraphia (Special Writing Disability)
3. Developmental Word Deafness
4. Developmental Motor Aphasia (Motor Speech Delay)
5. Developmental Apraxia (Abnormal Clumsiness)
6. Stuttering in Children
7. Combined or Mixed Syndromes.

Of particular interest to teachers of speech are the two syndromes, developmental motor aphasia and stuttering in children. In both of these the author finds that a prominent, if not the commanding rôle is played by the child's difficulty in sequence building or the blending of sounds into words. In both groups also propositional speech causes most difficulty, where as little if any difficulty is found in repetitive speech and the echoing of individual sound units. Phonetic errors are also frequently found. The first step in treatment is the correction of these phonetic errors when present, and this is followed by practice in the blending of sound units. Training to establish unilateral dominance is said to be given only when indicated by motor tests and careful inquiry into the history. In practically all of the cases discussed it appears to be indicated. A study of emotional factors, which are said to have no etiological importance, is recommended in the case of stuttering children in order to prevent the development of personality disorders which form so prominent a feature in the case of adult stutterers, a feature which the author believes has erroneously led to their consideration as causative factors.

The author's clinical data and arguments are not sufficiently convincing to warrant the acceptance of his theory with respect to these two syndromes. This is particularly true of stuttering, of which he says: "Stuttering in children has no true counterpart in the syndromes caused by lesions in the adult brain." The difficulties and

errors which he finds among children with these disorders in no way differentiate them from other children, but on the contrary characterize the speech and language learning activities of children generally.

Much significance is attached to the fact that stuttering begins, in most cases, during the second and third or between the sixth and eighth year, because during the first period the child "is just beginning to establish his habits of speech and of handedness," and during the second he "is just beginning to learn his graphic language—reading and writing—and beginning to integrate these new unilateral brain functions with his speech, which is still in the formative stage." It seems strange that a psychiatrist should consider relatively very unimportant the further facts that during the first period the child is just beginning to find in speech a powerful substitute for the cries and movements upon which he has depended for the expression and satisfaction of many of his needs, and that during the second he is confronted with the necessity of integrating the restrictions imposed upon his dominant motor and emotional leads by a new social group with the total personality reactions to which he has become habituated.

It seems strange that Dr. Orton should include stuttering among his syndromes in spite of the fact that it "has no true counterpart" in the adult syndromes, but fails to observe that the disturbances of rate and rhythm in stuttering do have a true counterpart in changes of rate and rhythm produced in the speech of non-stuttering children (and adults) by their emotional leads, particularly when these are interfered with. Similarly, he finds adequate cause for stuttering in the blocking of a motor lead, but not in the thwarting of emotional leads, even though the manifestations, in speech, of such thwarting often present a true counterpart of the tonic and clonic spasms of stuttering. Likewise, he accepts the intergrading of motor leads but rejects the intergrading of emotional leads in children whose environment continually forces upon them feelings of fear, anxiety, hate, insecurity and inadequacy.

Finally, one is struck by the fact that the author says nothing of the value, in treatment, of the physician-patient relationship, other than the obvious necessity for rapport. This dynamic relationship may well perform a psychotherapeutic function by establishing or re-opening channels through which blocked or intergraded emotional leads may proceed, unimpeded, towards the life-goal of total personality satisfaction.

The book is thought-provoking and instructive, but neglects a

most important consideration, namely, that the child develops the language function, and sometimes disorders of it, not alone in response to motor leads within the isolation of a somatic shell, but also in response to intellectual, emotional and spiritual "leads" as these are stimulated, inhibited or intergraded through contacts with his environment.

FREDERICK W. BROWN, *Garden, City, N. Y.*

Proceedings of the American Speech Correction Association, Madison, Wis.: College Typing Co., VII, 1937; pp. 75. This issue contains the following:

TRAVIS, L. E.: *Research Trends in Speech Pathology.*

STINCHFIELD HAWK, S.: *Does the Intelligence Quotient Change with Speech Training?*

WEST, R.: *The Use of Hearing Aids in Compensating for Disorders of Speech Perception.*

MILLER, E.: *Intensive Objective Studies in Stuttering: Preventive and Therapeutic Indications.*

BENDER, J. F.: *Re-educational Techniques and Achievement Testing in the College Speech Clinic.*

BACKUS, O. L.: *The Speech Clinic: the Supervisory Teacher: the Grade School.*

MUELLER, H. DU C.: *An Experimental Program in Speech Re-education for Pre-school and Primary Children.*

JOHNSON, W.: *Certain Cues Associated with Precipitation of Stuttering.*

MCGINNIS, M. A.: *Speech Spasticities.*

MOORE, W.: *A Conditioned Reflex Study of Stuttering.*

The *Proceedings* has become one of the standard journals of reference in the speech field. In addition to the following reviews, there are also five abstracts of papers.

Travis points out that present day trends in research in speech disorders is concerned with the patient himself and considers him from the following points of view: his constitution, his chemistry and metabolism, his endocrinology, his electrophysiology of the brain, his psychopathology, and his psychology.

Hawk says, "We have come to a firm conviction that training results in an improvement in speech which raises the qualitative as well as the quantitative intellectual responses of some children suffering from a speech handicap, and unable to acquire speech readily through auditory or visual channels."

West points out that "The need, therefore, for an adequate test of the actual increase of hearing that the aid affords is imperative. Without this test the profession of correction of disorders of speech perception is indeed a blind one. But with the test, such as I have described, one can prescribe a hearing aid to compensate for a known loss and when the aid has been built to see whether it comes up to specifications. If most of the sets that are in use today are tested by such a device they will be found seriously wanting."

Miller discusses the signficance of the findings of the various researchers in relation to many of the so-called problems concerning spasmophemia.

Bender finds that "Seemingly, the college is a selective agent in matters of speech as it is in matters of intelligence. Especially, in this respect: there are fewer speech defects traceable to organic and psychological causes among college students than among a like number students of the secondary and primary schools. It is not unusual, therefore, for the college speech clinician to find that over 90 per cent of his charges have speech defects of a functional or 'bad habit' etiology. The adequate program of speech rehabilitation for such speech defects is based largely on speech re-educational techniques."

Backus points out that the specialist in speech in the grade schools is not only concerned with diagnosing and treating speech problems, but must have a practical administrative philosophy in order to deal with the situation wherein the attitude of parents, students and teachers is so important.

Mueller carried out an experiment which demonstrated that speech games were a superior method in handling speech difficulties in the early school years. She used a control and experimental group.

Johnson's experiments demonstrate spasmophemia as a stimulus "in the sense that once stuttering behavior has occured it may serve as a stimulus for subsequent stuttering behavior by virtue of having been associated with specific letters, sounds, words, or other signs."

Giving illustrative cases, McGinnis attacks the thesis that little in the way of speech work can be done for spastics, and tells what techniques seem to be at present efficacious. Judging from this and other reports, it would seem that the phoniatrist is doing the most toward the general training of these cases.

Moore experimented and found that unpleasant conditioning of a language symbol tends to hurry and not delay a speech response

made with that symbol. He further found that spasmophemiacs are not differentiated from normal speakers by the effects which a conditioned stimulus has upon the ability to reproduce a time interval accurately. CHARLES H. VOELKER, *Dartmouth College.*

SMITH, JOSEPH E.: *Better Speech Training Through Teaching Technique.* (Papers from the Convention of the Western Association of Teachers of Speech). Ann Arbor: Edwards Brothers, Inc.; 1936; pp. 72. $1.60.

A. C. Roberts (*The Recreational Side of Speech Training*) says that the supreme purpose of civic instruction is the creation of rich and many-sided personalities, founded upon information, skills, power of analysis, habits, personality, will power and courage, and imagination. This is his ideal for the recreational side of speech training, for out of it come the lasting and fundamental values of the college and university experience. C. F. Lindsley (*The Importance of Social Background in Speech Education*), giving case history illustrations, shows that any type of teaching which does not embrace the total response of the whole man cannot get the best results. M. P. Allen (*The Importance of the Developmental Period of Speech*) states that the impulse toward babbling is so strong that even the deaf child babbles in quite the normal way, thus delaying the discovery of his infirmity. She also shows with cases that twins may develop their own jargon and use it for their own social intercourse, remaining indifferent to the language of their environment. E. Miller (*Rehabilitation of the Excessively Timid Children*) outlines the treatment of children who are poorly adjusted socially and who avoid the very experiences such as speech which they need for development. D. Smith (*Helping the Child Toward Social Adjustments by Means of Breath Rhythms*) not only describes normal breathing rhythms for children but also advises the teaching of the breath rhythms of fear, grief, and anger. W. B. McCoard (*Segregation—the First and Determining Factor in Improved Speech Technique*) examines his prospective students of fundamentals and divides them into four sections (1) Primary defective, (2) Subproficiency, (3) proficiency, and (4) project, in order to make practical the individuality ideal of speech training. J. Mathews (*The Personality Factor in Speech Defects and Reading Disabilities*) shows how rehabilitation not only corrects the symptom but helps the person. W. A. Cable (*Pedagogical Projects in Speech Correction*)

has found a solution for inadequacies of staff for clinical work by using graduate students for clinicians. V. A. Anderson (*Some Recent Contributions of the University of Wisconsin to Speech Correction*) discusses the work of Dr. Kopp on metabolism in stuttering, Dr. West on the naturalness of stuttering and also his frequency studies on deafness, and Dr. Backus' study of electrical phenomena as associated with hearing. N. Warren (*Scientific Methods in the Study of Speech*) discusses the how and where of research in speech. J. J. Pressman (*Laryngeal Highlights*), after discussing the anatomy of the vocal mechanism, outlines the treatment of hoarseness. N. A. Watson (*The Testing of Hearing by Means of the Audiometer*) gives a clear picture of the theory and practice of audiometry. S. Stinchfield Hawk (*Speech Defects Associated with Reading, Writing and Spelling Disability*) casts her vote for slow reading or word reading over no reading just as for slow speech over no speech or stammered speech. Elwood Murray (*The Psychogalvanometer as a Laboratory Instrument for the Basic Speech Course*) seems to get more practical teaching information by applying electrical techniques to emotion measurements while his students give their speeches than by testing them at another time with personality inventories. His contribution may well be one of the most significant of the day to public address. A. Morley (*An Analysis of Action Current Abnormalities During the Stuttering Act*), in records of action currents of the masseter muscles, voluntarily duplicated the abnormalities which appear in records of stutterers. K. H. Livingston (*Teaching Techniques in Dramatic Interpretation*) claims that emphasis must be shifted from production to techniques if high school dramatics is to be justified. E. E. Keppie (*The Choir and the Conductor in Verse Speaking*) discusses various possibilities in choral speaking work. F. Crutchfield (*The Royalty Question in Selection of Plays*) discusses dramatics from the point of view of the Samuel French publishing house. This book is recommended to everyone interested in any phase of speech and to all school libraries. It is of the nature of a periodical and can be subscribed to in such a way that it can be received as each new collection appears.

CHARLES H. VOELKER, *Dartmouth College.*

The New Better Speech (Revised Edition.) By A. T. WEAVER, GLADYS L. BORCHERS and C. H. WOOLBERT. New York: Harcourt, Brace and Company, 1937; pp. xii + 548. $1.60.

Really revised—not disguised with a new preface; really func-

tional—not vaguely suggestive of what perhaps could be done; packed full of meat in every paragraph, not attenuated with blanks to be filled out; soundly psychological, but classroom-tested for the positively practical; designed for high school students, yet not written down to anybody; vivid, attention-compelling, complete: the *New Better Speech* tempts the writing of a testimonial rather than a studied review. For the book ranges in reference from Aristotle to Mark Twain, and from Shakespeare to B.L.T. Its pictorial illustrations (and very striking and different illustrations they are) vary from Lloyd George and Franklin Roosevelt to von Neurath and Charlie McCarthy. And the elements are so mixed in the book that this reviewer is obliged to go on record as having read four chapters at one sitting without being able to leave off, for sheer interest in what came next. One may almost imagine that it would not be so bad to be of high-school age again.

Summarily, *The New Better Speech* contains sixteen chapters, covering Voice, Storytelling, Extempore Dramatics, Discussion, Tests of Good Speech, Reaching the Audience, The Visible Code, The Voice, Pronunciation, Oral Language, Public Speaking, Debating, Parliamentary Procedure, Reading, Play Production and Radio Speaking. The authors have devised combinations of selected chapters designed as the textual background for fundamental courses of various length, for debating, for public speaking, for interpretative reading, and for dramatics. For high-school purposes, each of these courses will be reasonably complete.

One who knows the authors may trace some of the favored viewpoints of each of them in *The New Better Speech;* that is inevitable: one may miss, and lament lack of, stress on some of one's own favored viewpoints; that too is inevitable. But here is rich, fully ripened discussion of nearly every needful thing as we now see the problem of high-school speech; rich, widely selected illustration of every vital point; richly variegated lists of activities planned to leave no doubt in the minds of either the youngest teacher or the newest pupil that there are interesting things to do. The Weaver, Borchers, and Woolbert *New Better Speech* will carry forward and improve the excellent long record of the Woolbert and Weaver *Better Speech.*

C. M. W.

Handbook of Broadcasting: How to Broadcast Effectively. By WALDO ABBOT. New York: McGraw-Hill Book Company, 1937; pp. xi + 424. $3.50.

Of the many books purporting to deal with the entire field of radio broadcasting, there are few that treat the subject so thoroughly and with so complete a knowledge of radio techniques as does this *Handbook of Broadcasting.* Expanded from a mimeographed manuscript used in his classes at the University of Michigan, Mr. Abbot has designed the book "as a guide for teachers and students of broadcasting, for those listeners who are interesting in learning how programs are planned and presented and for those who may be called upon at some time to speak to 'Mike'."

After several introductory chapters on the physical set-up of radio transmission and reception, the book deals with the various phases of radio speaking, interpretation, pronunciation and acting; with radio writing, commercial continuity, the radio address, the radio play; with music and the microphone; with the preparation and presentation of all types of programs intended for children.

There are excellent chapters on the essential radio equipment for the school; the building of programs; the law as it affects broadcasting; radio as a vocation. The last fifty pages of the book include a glossary of studio phraseology, suggested class assignments to be used in connection with each chapter and as complete a bibliography on the entire field of broadcasting as this reviewer has seen to date.

The author very wisely had each chapter read and revised by experts in each of the particular branches of broadcasting. Undoubtedly this has contributed both to the authoritativeness of the writing and to the awareness of the most recent developments and trends in radio, as an industry and as an art.

Here at last is a textbook on radio that should be as fascinating to laymen as it should be invaluable to students. The single factor that may limit its use somewhat is its slightly excessive cost.

ARNOLD MOSS, *Brooklyn College.*

Ways of Thinking and Writing. By FRANK W. CUSHWA and ROBERT N. CUNNINGHAM. New York: Charles Scribner's Sons, 1936; pp. xviii + 542. $1.80.

This book will be of interest chiefly to those teachers who in freshman English courses wish to combine oral with written composition. Its contribution lies in its emphasis not upon the barren

three-minute talk, but upon alert group discussion. This it attempts to evoke concretely through query and direction rather than by exposition of formal techniques.

Its aim is organically three-fold: to teach the student how to think properly, to furnish data for his thinking from contemporary life, to develop an ability to express his thoughts in writing and in speech. Part I is more than an anthology of nineteen essays: each of its eleven topical divisions is introduced, tied to the preceding section; each essay, save one, is followed by meticulously designed lists of questions, reviewing and provocative, and of topics for discussion, précis writing, and theme writing. There is thus simultaneously a progression of information and an evolution of types and principles of right thinking. Abstract formulation is not neglected: J. H. Robinson's "On Various Kinds of Thinking" and Huxley's "The Method of Scientific Investigation" are augmented by a section in Part II on psychological and logical determinants of thought; such things as habit, complex, emotion, rationalization, and incubation are defined; inductive and deductive reasoning are differentiated; argumentative fallacies are illustrated; there is lucid treatment of analogy and dilemma. Supplementary studies of twenty-seven socio-political problems and a selected bibliography provide more material than will normally be employed. Additional aids to student work are given in a handbook of spelling, punctuation, and usage, in brief advice concerning use of the library, methods of analysis and definition, illustrative devices, etc.; the few pages devoted to group deliberation seek only to prove its value.

The book is noteworthy for its facile blending of quotation and text, for its intensive concentration of detail, for its proportional emphasis on content rather than form. The only true test of its efficacy as a guide to student thinking, writing, and speaking would be, of course, use in an actual class: in the opinion of this reviewer it merits such trial.

J. CALVIN CALLAHAN, *Lehigh University.*

IN THE PERIODICALS

Revue Française de Phoniatrie. Edited by Dr. Jean Tarneaud. Published by Norbert Maloine, 27, rue de l'École-de-Médecine, Paris (VI^{e}), 40 francs per volume, (Quarterly).

The attention of the members of NATS is called to a journal, the scientific calibre of which makes it well worth subscription. It not only contains original articles concerned with disorders of speech, but also contains accounts of European speech conventions and recent bibliography and reviews of the literature. It started publication in 1933 and has published the following papers: *Hoarseness in Professional Speakers* (Moure and Junca, Bordeaux); *Vocal Disorders in Basedow's and Addison's Disease* (Segré, Turin); *Phoniatric Nomenclature* (de Parrel, Paris); *The Voice after Laryngectomy* (Guns, Louvain); *Tonsilectomy and Singing* (Viéla, Toulouse); *Naso-pharyngeal Sounds in Arabian Singing and Their Significance in Regard to Voice* (Duverger, Cairo); *Diagnosis and Therapy of Deaf Mutes* (de Prest, Bruges); *Chronic Maxillary Sinusitis in a Singer* (Kuborn, Luxembourg); *Theoretical and Experimental Study of the Reaction of the Pharyngeal Resonator on the Vibration of the Vocal Cords During Phonation* (Husson, Paris); *Tonsilectomy and Singing* (Tarneaud, Paris, and Viéla, Toulouse); *Apropos of Tonsilectomy and Singing* (Taptas, Istanbul), *Functional Disorders following Tonsilectomy in a Singing Pupil* (Labarraque, Paris); *The Influence of Total Bilateral Tonsilectomy in Tenors* (Jacod, Lyon); *Hypernasality Following Adenoidectomy* (de Prest, Bruges); *Infantile Voice in the Adult and Its Orthophonic Treatment* (Labarraque, Paris); *Phonetic Disorders in Retardation* (Borel-Maisonny, Paris); *Tremolo and Its Causes* (Matha, Paris); *The Etiologies of Stammering* (Guns, Louvain); *Vocal Reactionary Phenomena* (Husson and Tarneaud, Paris); *The Function of the Eustachian Cushion in Cleft-Palate* (Segré, Turin); *Observations Concerning the Importance of Perception and Its Training in Language and Music* (Nadoleczny, Munich); *The Influence of Calcification of the Larynx on its Vocal Function* (Terracol, Montpellier); *Total Tonsilectomy in a Student of the Vocal Class of the Conservatory* (Canuyt, Strasbourg); *Insufficient Velum and Adenoid Vegetations* (Borel-Mai-

sonny, Paris), *Vocal Fatigue* (de Parrel, Paris); *Dysphonias in Cauterets* (Corone, Cauterets); *Hoarseness, Technic for Re-educational Treatment* (Matha, Paris); *Stammering and Weak Voice* (Scuri, Rome); *Contribution to the Study of the Respiratory Remedy of Stammering* (Viéla, Toulouse); *The Voice of Deaf Mute Children* (de Parrel and Hoffer, Paris); *Analysis of Vowel Sounds* (Millet, Paris); *The Nasal Phonatory Reflex* (Tarneaud, Paris); *Radio Diction and Phonetics* (Lerichrome, Paris); *Rôle of the Naso-Pharynx, Nasal Cavities, and Sinuses in Phonation* (Husson, Paris); *Lymphoid Tissue of the Pharynx and Voice* (Moreaux, Nancy); *The Clinical Value of Graphic Records of Speech* (Borel-Maisonny, Paris); *A New Method of Delimitation of Vocal Tessitura by the Diapason* (Matha, Paris); *Voice with Ventricular Bands and the Law of Semon-Rosenbach* (Rethi, Budapest); *Different Ways of Defining Vowel Sounds* (Millet, Paris); *Origin of Functional Nasality* (Païkine, Kharkoff); *Apropos of Sigmatism* (Guns, Louvain); *The Articulation of the Consonant "R" in French Song* (Matha, Paris); *A Study of the Transitions of the Singing Voice* (Razavet, Paris); *Pharyngalgia Due to Dental Infection* (Stein, Munich); *The Conditioned Reflex in the Pathogenesis of Stammering* (Demanez, Louvain); *Laryngoscopic Examination of the Normal and Pathologic Mechanism of Phonation* (Borel-Maisonny, Paris); *Re-education of a Tenor Voice after Amygdalectomy* (Play-Decock, Paris); *The Habitual Tic* (Imhofer, Prague); *Abbreviated Vibration of the Vocal Cords* (Tarneaud, Paris); *Defects of Speech* (Pastel, New York); *Consonant Sounds* (Millet, Paris); *Hypermusia and Vocal Development in a Ten-Year-Old Child* (Tarneaud, Paris); *Nasality* (Millet, Paris); *On Battarismus* (Koukol and Poray-Kochitz, Kharkoff); *Rôle of the Larynx in the Quality of Sung and Spoken Vowels, and Transitions and Registers of the Voice* (Husson, Paris); *Voice Deficiency and Phrenospasm* (Labarraque, Paris); *Psychology and Physiology of Expression in Singing and Its Relation to Vocal Technic* (Razavet); *Disorders of Speech of Educative Origin* (Borel-Maisonny, Paris); *The Larynx and the External Endocrine Glands* (Terracol and Azémar, Montpellier); *An Improved Stroboscope for Vocal Pitch* (Cotton, Ohio). It is published by the French Society for Phoniatry (Speech Correction). Dr. G. Oscar Russell (Columbus, Ohio), is the American collaborator.

CHARLES H. VOELKER, *Dartmouth College*

Talks, A Quarterly Digest of Addresses of Diversified Interest Broadcast Over the Columbia Broadcasting System Network. STERLING FISHER, Editor.

Talks, of which Volume I, Number 1, appeared in January, 1936, has amply demonstrated the pungency, variety, interest, and occasional inanity of the talks appearing over only one of the great broadcasting networks of the country. It is of indubitable interest to the general readers who are concerned with the multiple problems and foibles of present-day America. Politics, science, labor, medicine, literature, music, foreign affairs, psychology, education, and the minutiae of daily living are represented. In April, 1937, appeared a special supplement of 200 pages containing talks on the Supreme Court proposal. It is hoped that this supplement will soon be brought up to date with a new issue.

Certainly speech teachers, whether or not they conduct classes in radio speaking, will be intensely interested in this quarterly. These up-to-the-minute examples of argumentative, expository, and entertaining speeches should prove of value in the class room. Dialogs and interviews are sparingly represented; forum discussions, so far, have not been. The speech stylist will find many of the speeches distinguished for directness, colloquial tone, conciseness and concreteness—but with few of the more subtle virtues.

Talks is primarily designed for the patrons of CBS, rather than for the speech profession. From our standpoint, however, the following criticisms may be offered:

1. Why not give the dates on which the speeches were delivered—so that we could judge them more accurately in terms of the precise national situation?

2. Some of them were delivered in a private studio, some before audiences. If a brief note of introduction to each speech informed us of the size and type of the audience to which it was immediately delivered, we should be able to consider the speaker's double problem of adaptation to an immediate and an absent audience.

3. As the term, *A Quarterly Digest,* indicates, the talks are abridged. With scholarly integrity each excision is marked by a series of dots. Of course there are the twin considerations of general readers' interest and publishing economy to justify these excisions, but certainly from our standpoint as students of speech structure this portion of the editorial policy is to be regretted.

In general, however, the reviewer has nothing but praise for CBS in its venture with *Talks*. May NBC soon devise a similar plan! Incidentally, *Talks* is distributed without charge to a "selected clientele.

ROBERT T. OLIVER, *Bucknell University*.

The Public Opinion Quarterly, School of Public Affairs, Princeton University, Princeton, New Jersey.

Those who believe that a sound teaching method for courses in extemporaneous speaking requires a study of the forces which mould public opinion will find this new journal a source of valuable information. The contributions to *The Public Opinion Quarterly* deal, in the main, with subjects that are closely related to the whole field of persuasion.

BREDE, ALEXANDER: "The Idea of an English Language Academy." *The English Journal* (College Edition), XXVI, No. 7, September, 1937, 560–568.

This article serves as an introduction to a study by Dr. Hermann Flasdieck dealing with the origin of proposals for the establishment of an Academy to fix and standardize the English language. The work to which Professor Brede refers and from which he presents some details by way of review and summary is *Der Gedanke einer englischen Sprachakademie in Vergangenheit und Gegenwart*, Jenaer Germanistische Forschunger, No. 11, Herausgegeben von A. Leitzmann, Jena: Verlag der Frommannschen Buchhandlung.

MARBLE, ANNA THERESA: "An Experiment in Choral Verse-Reading." *The English Journal*, XXVI, No. 7, September, 1937. 577–578.

This is a short statement dealing with a choral reading program for a class of Juniors in high school.

JOHNSON, WENDELL and HOUSE, ENOD: "Certain Laterality Characteristics of Children with Articulatory Disorders." *The Elementary School Journal*, XXXVIII, No. 1, September, 1937, 52–58.

Using forty-one "speech cases with severe functional articulatory defects," the authors studied certain "laterality characteristics" to compare them with the same characteristics in a group of children presenting normal speech behavior. The conclusions showed that "handedness, as measured, tends to be related to severe functional articulatory defects."

BOAS, GUY: "The Influence of the Boy-Actor on Shakespeare's Plays." *The Contemporary Review*, 152, No. 859, July, 1937, 69–77.

"It is an historical fact of almost startling significance that, with the disappearance of the boy-actor, poetic drama in England came to an end, and there has been no revival. At the Restoration our drama grew up, became adult, and it has never quite presented fairies or murders or battles or kings, *or women*, with the same unaffected spontaneity again.

"Our dramatists and our flowing actresses have said for us since the Restoration a great many clever things about women which had not been said before. But they have never exhibited them on the grand scale on which Shakespeare created them and his boys interpreted them. Poetic drama and the boy-actor disappeared together." The author doubts that it was mere coincidence.

DAVAR, FIROZE C.: "Words—Their Significance and Romance." *Journal of the University of Bombay*, V, Pt. III, November, 1936, 1–23.

In tracing the history of a number of words, the author proposes to show how language becomes "the index of a nation's culture, flourishing or declining according to the rise or fall in her material prosperity, teeming with words of religion during some spiritual movement and with political terms during some national upheaval."

BACON, FRANCIS L.: "Improving Education Through Discussion Groups." *School and Society*, 46, No. 1182, August 21, 1937, 225–231.

In this article—which is a copy of an address delivered before one of the sections of the General Assembly of the National Education Association at Detroit last June—Dr. Bacon says: "It cannot be too strongly urged that our profession should give attention to the imperative need for a cooperative study of our educational problems. . . ."

Dr. Bacon refers to a Committee appointed by the Department of Secondary School Principals to consider the formation of a number of discussion groups throughout the country. These groups are to serve as specific agencies "for attacking the problems of the profession upon a general basis of wide participation by individuals." The committee is now working on a program which will include two groups: one in which only secondary school teachers and adminis-

trators participate, and another in which the members of the community and the teachers take part. Materials for use in discussion and a manual of rules for the conduct of meetings are now being prepared.

———: "Oratory." *The Quarterly Review*, 269, No. 533, July, 1937. 132–144.

"... the best purpose of oratory is to persuade an audience through good speaking." While admitting that there has been and still is both good and bad in oratory, the author voices a sort of tempered regret at the passing of eloquence such as was heard from John Bright, Joseph Chamberlain, and Lord Salisbury.

A breakdown in the "confidence of oratorical utterances" is evident in the public assembly, in the pulpit, and on the stage. The "oracular Press" and advancements in science are chiefly responsible for this decay.

"In spite of the general deterioration of oratory there is no reason why efforts should not be made to restore it, for it still is an art that should matter."

HENDERSON, GAVIN B.: "The Pacifists of the Fifties." *The Journal of Modern History*, IX, No. 3, September, 1937, 314–341.

Mr. Henderson's article might well be included in the bibliography of works on British oratory. It treats of the peace movements in England following the "war-weariness of 1815," and evaluates the efforts of such men as Joseph Sturge, Richard Cobden, and John Bright. The realistic attack of both Cobden and Bright on the problem of disarmament and war receives special attention. The author concludes that "the experiences of the fifties had really indoctrinated a few leading statesmen with peace ideas. Perhaps the impression made on the mind of Gladstone was the most important practical result of this phase of the movement."

Because the Quakers figured so prominently in the peace movements, students of British Oratory might wish to link this article with the two volume work by J. Travis Mills entitled *John Bright and the Quakers* (London, Methuen and Company, 1935).

READ, ALLEN WALKER: "Projected English Dictionaries." *The Journal of English and Germanic Philology*, XXXVI, No. 2, April, 1937, 188–205; XXXVI, No. 3, July, 1937, 347–366.

"The pathway of English lexicography is strewn with unfinished

dictionaries: some are recalled by an author's announcement, some were heralded by an elaborate prospectus, and others even began the long journey down the alphabet."

Professor Read presents with descriptive analyses the list of the projected works from the publication of Johnson's *Dictionary* in 1755 to the publication of Webster's work in 1828.

McKINNEY, FRED: "An Empirical Method of Analyzing a Sales Interview." *The Journal of Applied Psychology,* XXI, No. 3, June, 1937, 280–299.

In order to analyze and measure the elements of a sales interview, a standard talk was divided into the specific sales arguments which it contained and then given to a class in applied psychology. One member of the class acted as the customer and responded to the salesman as she saw fit. Another member made a stenographic report of the customer's remarks, the salesman's replies, and all other departures from the original text. The remaining members of the class were asked to jot down their reactions to each element in the sales situation. Studies were then made of the reactions.

The author ends his article by saying that the method "can be adapted to other forms of discourse as the public address, radio discourse, the debate or the drama, in order to learn the cognitive and emotional responses of a typical audience to the various aspects of the presentation."

REMMERS, H. H. and WHISLER, LAURENCE: "The Effect of the President's Speech on Pupils' Attitudes Towards the Proposed Supreme Court Changes." *School and Society,* 46, No. 1176, July 10, 1937, 64.

The authors report briefly on a test given to a small group of High School students. The Remmers-Thomas "Scale for Measuring Attitude toward any Proposed Social Action" was used. (See Dorothy M. Baines, "Studies in Higher Education, XXXI." *Bulletin of Purdue University,* XXXVI, No. 4, December, 1936, 252–258.)

SMITH, HENRY LESTER and PAINTER, WILLIAM ISAAC: "Bibliography of Literature on the Teaching of English." *Bulletin of the School of Education, Indiana University,* XIII, No. 1, December, 1936, 299 pp.

This annotated bibliography lists articles dealing with the several branches of speech. It should be of real value as a reference volume.

HOOLE, WILLIAM STANLEY: "Two Famous Theatres of the Old South." *The South Atlantic Quarterly*, 36, No. 3, July, 1937, 273–277.

The two famous theatres to which the author refers were in Charleston, the first operating from 1793 until it was sold to a medical college in 1833 and the second, from 1837 until it burned in 1861.

REED, MARION E.: "Does Debate Have a Place in Our Schools?" *California Journal of Secondary Education*, 12, No. 5, May, 1937, 300–302.

In presenting a lively defense of debating, Miss Reed, who is the Debate Commissioner of Fresno County, California, concludes: "Perhaps the major advantage of debate is that it does not have to be taught as a separate subject but may be easily incorporated in practically any subject in the curriculum where there are two sides to a question or where a variety of opinions on the part of students is possible."

MICHAEL, JAMES: "If You Stutter." *Consumers Digest*, Vol. 1, June, 1937, 52–59.

No more guinea pigs! Consumers Research list for stutterers:

RECOMMENDED—SPEECH CLINICS OF:

Fort Hays State Teachers College, Hays, Kansas.
Northwestern University, Evanston, Ill.
State University of Iowa, Iowa City, Iowa.
University of California, Berkeley, Calif.
University of Minnesota, Minneapolis, Minn.

QUALIFIED RECOMMENDATION—SPEECH CLINICS OF:

Birmingham Southern College, Birmingham, Ala.
Brigham Young University, Provo, Utah.
Columbia University, New York, N. Y.
Iowa State College, Ames, Iowa.
Kent State University, Kent, Ohio.
Kenyon College, Gambier, Ohio.
Montana State University, Missoula, Mont.
Ohio State University, Columbus, Ohio.

Pennsylvania State College, State College, Pa.
Purdue University, LaFayette, Ind.
Syracuse University, Syracuse, N. Y.
Tulane University, New Orleans, La.
University of Denver, Denver, Colo.
University of Michigan, Ann Arbor, Mich.
University of Missouri, Columbia, Mo.
University of Southern California, Los Angeles, Calif.
University of Washington, Seattle, Wash.
University of Wichita, Wichita, Kansas.
University of Wisconsin, Madison, Wis.
Western State Teachers College, Kalamazoo, Mich.

CHARLES H. VOELKER, *Dartmouth College.*

NEWS AND NOTES

Please send items of interest for this deparmtent directly to Miss Lousene Rousseau, 49 East 33d Street, New York City.

A move of great significance to American teachers of speech has been made by the State of Missouri: the position of State Supervisor of Speech has been created by the State Department of Education. This new department will deal both with the problem of the improvement of defective speech and with greater participation in speech activities by all children in the schools. Thirty school communities have been designated as speech education centers, and demonstrations and conferences will be held there, in conjunction with examination of children with defective speech. The aim here is to assist the teacher who has no special training in speech correction to care for the problem child in this field. Participation in all kinds of speech activities, including contests but emphasizing especially non-competitive activities, will be urged throughout the state. Speech points will be awarded for all participation in both competitive and non-competitive activities, and eventually a State Speech Certificate will be awarded to students. The first Supervisor of Speech is R. P. Kroggel, who was formerly on the faculty of the Moberly Junior College.

* * * *

Michigan State College has recently announced the creation of a new and independent Department of Speech, all courses in this field having formerly been offered in the English Department. The speech staff this fall includes seven members, headed by Donald Hayworth, formerly chairman of the Department of Speech at the University of Akron. The popularity of speech courses on the campus is indicated by the fact that there are eighteen sections of Speech I the first semester.

* * * *

The National Association of Teachers of Speech has been invited to participate in the Second National Conference on Educational Broadcasting, which is to be held at the Drake Hotel in Chicago November 29 to December 1. Dr. George Zook, President of the American Council on Education, is Chairman of the Conference, and Dr. Lyman Bryson, of Teachers College, will conduct all of the discussions which follow the general sessions. Topics for discussion include the American system of broadcasting, an evaluation of broadcasting from the point of view of the listener, educational broadcasting, and the future of radio.

* * * *

The University of Wisconsin has received a grant of $41,750 for a two-year study of school broadcasts. H. L. Ewbank is chairman of the committee in charge of the project.

The second Institute of Speech Arts and Sciences was held at the University of Denver July 12 to 23, with 115 registrations. In addition to the speech staff of the University of Denver, members of the institute staff included Dr. Giles W. Gray, of Louisiana State University, Dr. A. K. Loomis, Cleveland Heights High School, Dr. T. Earle Pardoe, Brigham Young University, Margaret P. MacLean, New York University, and Jennie Waugh, Tarkio College. The institute included a laboratory in playwriting and folk drama, a National Forensic League Conference, a forensic conference, and the Central City Play Festival. At the same time committee meetings were held for the new integrated Speech Curriculum of the Western Association of Teachers of Speech.

* * * *

The Public Speaking Section of the Northeastern Ohio Teachers Association held its annual meeting in Cleveland, October 29, with the following program: "A Speech Curriculum for High Schools," E. Turner Stump, Kent State University.; "Requirements for Teachers of Speech," Bert Emsley, Ohio State University; "National Associations and Interscholastic Relationships," E. J. Dillar, Youngstown College. Paul B. Williams, of Edgewood High School, Ashtabula, is chairman of the Public Speaking Section.

* * * *

Interrelation of the Speech Arts was the theme of the interesting Conference in Speech and Drama sponsored by Stanford University, August 19-21, 1937. The conference, which attracted several hundred speech teachers from all parts of the United States, evaluated the various phases of speech training and activities with respect to each other and to their function in the educational program.

Three general sessions considered Integration of Speech and Drama, Integration of Speech and Other Subjects, and The Theatre, as basic units of the conference theme, each addressed by at least four outstanding authorities.

Informal afternoon and evening discussion groups considered Public Speaking and Debate, Dramatics In Schools, Oral Interpretation, Playwriting, Voice and Diction, and Experimental Plays.

A unique and popular feature of each day's program was the opportunity offered registrants for personal conferences with men and women who have done notable work in selected fields. Through these personal conferences each registrant was able to consult specialists for discussion of actual teaching and production problems.

Outstanding dramatic, musical, and dance productions enriched the conference. George Bernard Shaw's *Pygmalion* was presented each evening by the Palo Alto Community Players under the direction of Ralph Emerson Welles. Two evening performances of Shakespeare's *Twelfth Night* were presented by Stanford University players, under the direction of Dr. Hubert Heffner of Northwestern University. Robert Sherwood's satiric romance *Reunion in Vienna* was offered on the opening evening as a play reading by the Stanford Summer Drama Festival staff.

String ensemble concerts, a program of sword and Morris dances; displays of scholarly and original materials related to *Twelfth Night;* inspection of stage, lighting equipment, and workshop of new Stanford Memorial Theatre;

an exhibition and demonstration of costume designing, and social events—afternoon teas, group luncheons, and dinner meetings—were additional conference features.

Conference participants included Warren D. Allen, Margery Bailey, Lee Emerson Bassett, Virginia Lee Block, Elizabeth Lee Buckingham, Leland T. Chapin, Gordon Giffen, Henry David Gray, Helen Green, Waldemar Johansen, Gordon Lange, and Marie Manchee, all of Stanford University; Ada Beveridge, San Mateo Junior College; J. Richard Bietry, Los Angeles Junior College; John W. Casteel, University of Oregon; Barry Cerf, Reed College; Alice E. Craig, Francis Polytechnic High School, Los Angeles; Gordon Davis, University of Arizona; Edwin Duerr, University of California; Mabel F. Gifford, California State Department of Education; Giles W. Gray, Louisiana State University; H. Miles Herberer, Kansas State College; Hubert Heffner, Northwestern University; Glenn Hughes, University of Washington; Ray K. Immel, University of Southern California; Talbot Jennings, Metro-Goldwyn-Mayer; Charles F. Lindsley, Occidental College; Alan Nichols, University of Southern California; Hans Peters, 20th Century-Fox; Tacie Hanna Rew, University of Southern California; Rudolph Schaeffer, San Francisco School of Design; Marion Stebbins, Mills College; Marietta Voorhees, St. Helena (California) High School; Ralph Emerson Welles, Palo Alto Community Theatre; and John W. Wright, Fresno State College.

* * * *

The Enoch Pratt Free Library, Baltimore, Maryland, is very anxious to complete its file of QUARTERLY JOURNAL OF SPEECH and solicts offers of Vols. 1, 20-22, 1915, 1934-1936.

* * * *

The Department of Speech at the University of Arizona has installed a new Universal speech-recording machine, with a Western Electric non-directional dynamic microphone and a Remler recording amplifier. An experienced technician from one of the local radio stations operates the machine, and a regular schedule has been established for the recording of the voices of the students in speech I and II and in the voice and diction course.

* * * *

A new course in choral speaking has been added to the Speech curriculum of the University of Arizona. Mrs. Alethea Smith Mattingly is in charge of it.

* * * *

A new kind of contest was held in Detroit last May, when the Morris Plan Bank of Detroit conducted a "Pronounce-A-Down" contest during the Detroit and Michigan Exposition. The contest is similar to the old-fashioned spelling "bee," except that participants are judged by their pronunciation of words, instead of by spelling. There were four groups, open respectively to high school students, college undergraduates, teachers, and individuals not falling into any one of these classes. In each group five prizes were awarded—$100.00, $75.00, $50,00, $25.00, and $10.00. G. E. Densmore, of the University of Michigan, acted as critic judge for the finals of the contest.

* * * *

A series of articles by Thomas C. Trueblood, on early teachers of elocution in America, is running in *The Speaker* of Tau Kappa Alpha.

FORENSICS

A new type of forensic tournament was worked out at the Institute of Speech Arts and Sciences at the University of Denver this summer. The project consisted of a sequence of discussion, extemporaneous speaking, and debate projects laid out in a functional order on a series of subtopics related to a proposition for action, with separate divisions for high school students, college students, and teachers. The experiment, which was known as a "Forensic Experience Progression," was under the direction of P. Merville Larson, of Hutchinson Junior College, Kansas.

The question for the 1937-1938 season of the Wisconsin High School Forensic Association concerns the unicameral legislature. Nearly four hundred high schools are members of this active debate league.

An up-to-date discussion of unicameralism, the debate topic chosen by the National University Extension Association for 1937-38, will be available in *The Unicameral Legislature*, by Alvin W. Johnson, to be published in November by the University of Minnesota Press.

The book presents, in brief, compact form, a complete digest of material on one-chamber legislation, its history, its theory, and how the theory has worked in practice. Arguments for and against bicameralism are summarized, and examples are cited from the experiences of the various state legislatures.

There is a detailed account of Nebraska's first year of unicameralism and the movement leading up to it, with an analysis of the amendment. The 1937 proposals in twenty-one other states are described and interpreted with a view to the details of organization and procedure that are likely to characterize unicameralism in the future; special attention is given to the specific problems and proposals of California, Ohio, Arizona, and Minnesota. There are chapters on legislatures abroad and early legislatures in the United States. A complete bibliography of magazine articles and books on the subject adds to the usefulness of the book as a text for debaters.

Professor Johnson is head of the department of history and political science in Pacific Union College, Angwin, California. He is the author of *The Legal Status of Church-State Relationships in the United States*, published by the University of Minnesota Press in 1934.

DRAMATICS

The Division of Dramatics of the Pennsylvania State College is offering, through the Extension Division of the College, play production assistance to amateur groups anywhere in the state. Thousands of plays are available for reading in the dramatic library. In conjunction with this new service the Penn State Players, student dramatic organization, will present regular performances on tour at reasonable fees.

A laboratory in playwriting and folk drama was presented at the University of Denver, July 18 to 23, under the direction of Campton Bell, of Colorado State College. Jennie Waugh, of Tarkio College, and Mary Coyle Chase, Denver playwright, served as critics for the fifteen plays which were submitted and read in the laboratory.

Recent productions of Blackfriars, of the University of Alabama, included Kataev's *Squaring the Circle*, Jackson's *The Bishop Misbehaves*, Courtney's *An Engagement Incognito*, and Shakespeare's *Romeo and Juliet*. *The Bishop Misbehaves* was taken on tour through eastern Alabama and Georgia. During the summer session Blackfriars produced Shakespeare's *Julius Caesar*, Davenport and Kaufman's *First Lady*, and several bills of one-acts. The 1937–1938 season was opened with Bulwer-Lytton's *Richelieu*. Productions are under the direction of Lester Raines, acting head of the Department of Speech at Alabama.

The past summer witnessed the ninth season of the Michigan Repertory Players at the University of Michigan. The first play presented, *The Bartered Bride*, was produced in conjunction with the School of Music as part of the entertainment program of the University of Michigan Centennial program. Other plays included in the season's program were *The Path of Flowers, Ethan Frome, First Lady, Yellow Jack, Pride and Prejudice, Accent on Youth, Daughters of Atreus*, and *H.M.S. Pinafore*, the latter being also produced in conjunction with the School of Music. The staff included Valentine B. Windt, director, and Alexander Wyckoff, art director, Evelyn Cohen, costumer, and Frederic Crandall and Mrs. Claribel Baird, assistant directors.

An original American masque was produced at the Central Washington College of Education at Ellensburg during the summer. Called *Deeper Than Atlanta*, it was written by Jackson Mathews, its music composed by Francis Pyle, and it was directed by Russell W. Lembke. The poem upon which the masque was based—a satire on the life of Huey Long—has just been published in the *Mercury*.

A new dramatic service has been instituted at Aubuquerque, New Mexico, under the name of "Drama Contacts." For a very moderate fee this new bureau will criticize manuscripts of plays and radio sketches and will make every effort to market those with possibilities. Mr. Carless Jones is director of "Drama Contacts."

PERSONALS

Lionel Crocker has returned to Denison University, after a leave of absence spent in studying the newspaper accounts of Beecher's visit to England in 1863.

Sara Stinchfield-Hawk was a member of the summer faculty at Pennsylvania State College, offering courses in the psychology of speech and speech pathology.

W. Arthur Cable, of the University of Arizona, spent the second term of the summer session studying at the University of Southern California.

Miss Willian P. Hinsdale, formerly of the College of the Pacific, has been appointed chairman of the Speech Department at the New Mexico Normal University. She will also direct the work of Koshares, dramatic organization there.

Richard Woellhaf, of Denison University, has been granted leave of absence for 1937–1938. His place is being taken by Edward A. Wright.

Monroe Lippman, formerly of the State Teachers College at San Marcos, Texas, is the new director of dramatics at Tulane University.

R. D. T. Hollister, of the University of Michigan, was a member of the summer session faculty at the University of Kentucky.

Mary Huyck, who received her M.A. degree from the University of Denver

in June, is a new member of the faculty at the University of Arizona, where she has charge of the introductory course, Principles of Speech.

William Ray, of the University of Denver, has accepted the position of director of debate at the University of Alabama, taking the place of Melvin Allen, who has become an announcer for the Columbia Broadcasting Company in New York.

New instructors in the Department of Speech at the University of Alabama are Rita Dilley, from the University of New Mexico, and George Anderson and Irving G. McNayr, recent graduates of the University of Alabama.

E. H. Henrickson, formerly director of debate and forensics at Montana State University, has joined the faculty of the Iowa State Teachers College, at Cedar Falls. The new director at Montana is James N. Holm, formerly of Ohio State University. Mr. Holm received his M.A. degree at the University of Wisconsin this past summer.

Theodore G. Ehrsam, formerly director of debate at Lehigh University, is at present studying toward his doctorate at New York University, and directing debate activities at the recently established Hofstra College of that institution.

Miriam Dorr, who graduated from Denison University last June, is now a graduate assistant in speech at Ohio Wesleyan University.

Mr. William Campton Bell has been appointed instructor in speech and dramatic arts at the University of Denver. He will succeed Frederic Hile. Mr. Bell received his B.S. degree from Colorado State College at Fort Collins and his M.A. from Northwestern University. He has served as a member of the faculty of Kemmerer High School in Kemmerer, Wyoming, and as instructor in speech at Colorado State College.

Some new appointments:

Robert T. Oliver, Bucknell University, Lewisburg, Pa.
Clara E. Krefting, Bradley Polytechnical Institute, Peoria, Ill.
Nora Landmark, Alabama Women's College, Montevallo, Ala.
Frank Davis, Colorado State College, Ft. Collins, Colo.
Anthony P. Kerr, Jasper College, Jasper, Alabama.
Dallas Williams, State Teachers College, San Marcos, Texas.
Thelma Smith, Whitworth College, Brookhaven, Miss.
Flo Konold, Sullins College, Bristol, Va.
Gifford Blyton, Ohio University, Athens, Ohio.

* * * *

The eighth annual convention of the Western Association of Teachers of Speech will be held on the University of Denver campus from November 25 to 27.

The general theme of the convention will be Speech as a Social Integrator, or, Speech, an Integrator for Social Education. Included in the general program will be panel discussions on what the term integration means for speech and how progressive education interprets it.

Special sections for discussion will be held for elementary school teachers and executives, junior and senior high school teachers and executives, college instructors and executives.

Prominent educators and teachers of speech will participate in the convention.

Who's Who Among Contributors

John W. Black (*Webster's Peroration in the Dartmouth College Case*) has an A.B. from Wabash with his M.A. and Ph.D. from Iowa. From 1927 to 1935 he was Professor of Speech at Adrian College. At present he is Professor of Speech at Kenyon College, Gambier, Ohio. He is the author of "The Quality of a Spoken Vowel" in the *Archives of Speech*, July, 1937. He is writing the criticism of Rufus Choate for *Studies on American Orators*.

Lena A. Foley (*Speech in the Every-Day Life of Our High School Students*) is Head of the Speech Department at Shorewood High School, an interesting, progressive school in a suburb of Milwaukee, Wisconsin. Miss Foley's department is unusually large and active, for Shorewood offers two full years of speech and almost a fourth of the student body are enrolled in the extra-curricular dramatics or other speech activities.

Alan H. Monroe (*The Statistical Reliability and Validity of the Shift-of-Opinion Ballot*) has his degrees, including the Ph.D., from Northwestern University. He has been chairman of the Department of Speech of Purdue University since 1927. Mr. Monroe was president of the Central States Speech Association in 1932–33.

Eldon K. Jerome (*Change of Voice in Male Adolescents*) has his A.B. and M.A. from Northwestern University. Before taking up his work at Purdue as Assistant Director of the Speech Clinic and Instructor in Speech, Mr. Jerome was Research Assistant in Speech Pathology at the Mooseheart Laboratory for Child Research at Mooseheart, Illinois.

Clara E. Krefting (*The Status of Speech Training in Secondary Schools of the Central States*) is director of the Department of Speech of Bradley Polytechnical Institute of Peoria, Illinois. She has just received her Ph.D. Degree from Louisiana State University, where she held a teaching fellowship the past year. Previous to that she was assistant professor of speech at Baker University, Baldwin, Kansas. She holds the M.A. Degree in speech from the University of Wisconsin and the A.B. Degree from the University of Minnesota.

Richard D. T. Hollister (*Apparatus for Recording Impulse Movements in a Thinking-in-Language Process*) is an Associate Professor of Speech at the University of Michigan. He holds the Ph.D. Degree in Psychology from the University of Michigan. He is the author of *Literature for Oral Interpretation, Speech Making, Notes on Theatre Art*.

Louis M. Eich (*A Previous Adaptation of Romeo and Juliet*) has his A.B. (1912) and Ph.D. (1923) from the University of Michigan. He has taught speech at Knox College, Grand Rapids Junior College, Ohio State University, and at the University of Michigan. He is now Associate Professor of Speech at Michigan and is in charge of the doctoral work in rhetoric and in the history of theatrical productions.

Edna Dorothy Baxter (*A Child Guidance Clinic through Speech*) is a graduate student in the Department of Speech and an assistant in the Psychological Laboratory at the University of Denver. She has operated a behavior

clinic for children in Denver for several years and is the author of the *Baxter Child Personality Test*, a report of which appeared in the *Journal of Applied Psychology* of August 1937.

Thomas E. Coulton (*Recent Trends in College Speech Curricula*) is Associate Professor of Speech at Brooklyn College, Brooklyn, New York, where for some years he was Acting Chairman of the Department of Speech, Men's Division, prior to the amalgamation of the Men's and Women's Divisions under Professor J. M. O'Neill. Dr. Coulton was granted the Ph.D. by New York University, where he presented a thesis on *The History of Speech Education in American Colleges since 1830.*

Winifred H. Littell (*Before and After Taking*) has for the past ten years been a teacher of speech and dramatics in Southeastern High School, Detroit, Michigan. Previous to going to Detroit, Miss Littell taught at Hinsdale High School, Hinsdale, Illinois. Miss Littell is a graduate of Olivet College, Michigan. She holds an M.A. Degree in speech from Columbia Teacher's College. Her training includes work with Mr. and Mrs. Coburn and Ivan Lazareff.

George P. Wilson (*Standards of Correct Pronunciation*) is Associate Professor of English, Woman's College of The University of North Carolina, Greensboro, North Carolina. He has an A.B. from North Carolina, an A.M. from Columbia, and has done additional graduate work at Wisconsin. He is a member of the Committee of the South Atlantic States on the Linguistic Atlas of America and on Dialect Studies.

Clay Tanberg (*The Clinical Significance of Symptomatology and Etiology of Stuttering*) received his B.A. Degree from the University of Washington, Seattle, Washington, in 1936. After graduation he remained at Washington for a year of graduate study in speech pathology and psychology. At present he is a graduate assistant at the University of Iowa, where he is working toward a Ph.D. in clinical psychology and speech pathology.

Angelo M. Pelegrini (*The Aim and Educational Content of Oral Reading*) is teaching at the University of Washington, where he is a candidate for a Ph.D. in literature and philosophy. He is co-author with Brents Stirling of *Argumentation and Public Discussion* (D. C. Heath, 1936).

Carless Jones (*In Defense of Richard Wagner*) was graduated from the University of Iowa in 1929, thereafter teaching English and speech for five years in Athens College, Athens, Greece. Later he taught a year in Harrison High School, Harrison, New York. At present he is at Albuquerque, New Mexico, writing plays and managing Drama Contacts, a service for authors and producers. In connection with Drama Contacts he conducts a radio program over KOB, using reviews of scenes from promising new plays.

Paul Moore (*A Short History of Laryngeal Investigation*) is instructor of speech re-education and supervisor of student teaching in the Department of Speech Re-education, School of Speech, Northwestern University. He has been a member of the Northwestern University faculty since 1930. He received his Ph.D. Degree from the same institution in 1936.

Ormond J. Drake (*Toward an Improved Vocal Quality*) is teaching at Princeton University, being on leave of absence from Michigan State College, East Lansing, Michigan. Mr. Drake received both the B.A. and M.A. Degrees from the University of Michigan and has done additional work at Wisconsin.